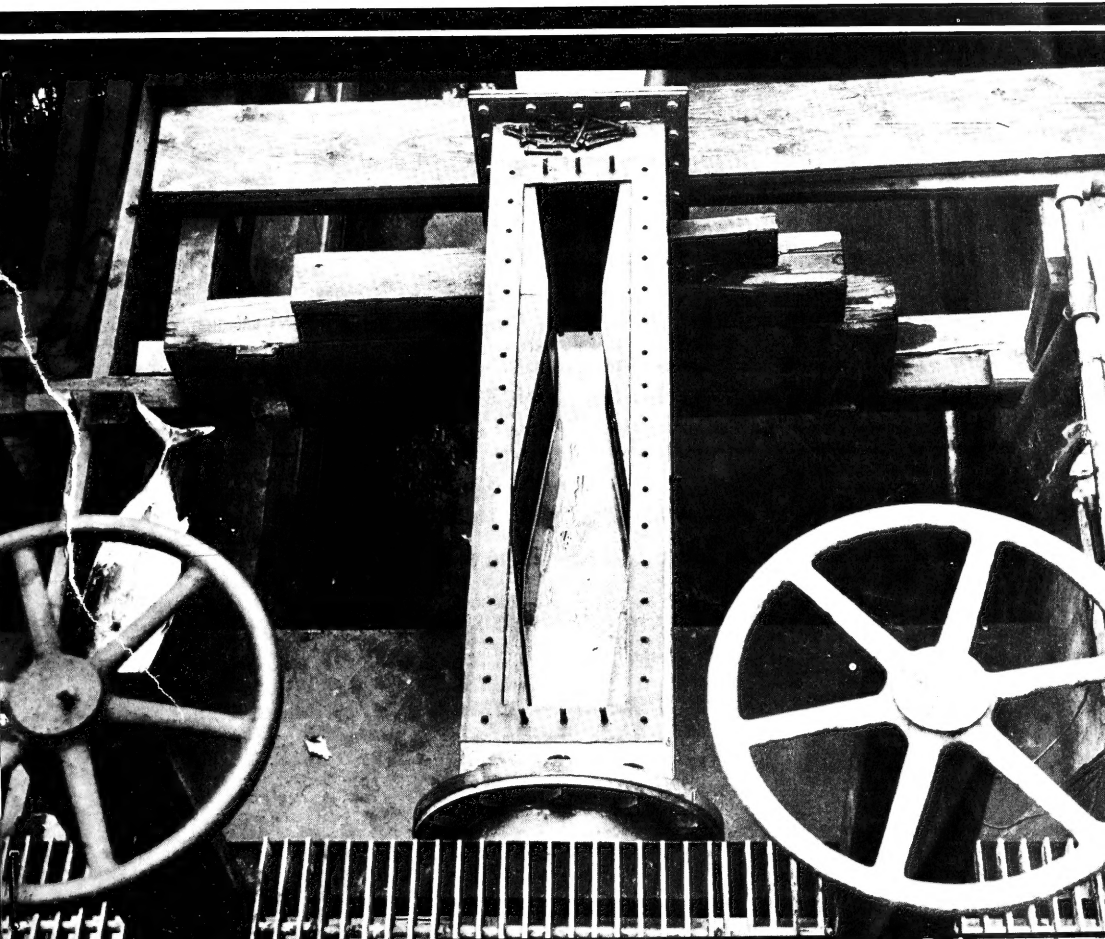


# COMMERCIAL FISHERIES REVIEW



Vol. 13, No. 8

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FISH and WILDLIFE SERVICE  
United States Department of the Interior  
Washington, D.C.





# COMMERCIAL FISHERIES REVIEW



A REVIEW OF DEVELOPMENTS AND NEWS OF THE FISHERY INDUSTRIES  
PREPARED IN THE BRANCH OF COMMERCIAL FISHERIES

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## EXPERIMENTAL TESTING OF FISH TAGS ON ALBACORE IN A WATER TUNNEL

By Dayton L. Alverson\* and Harry H. Chenoweth\*\*

### INTRODUCTION

Albacore tuna tagging (as an adjunct to the North Pacific fisheries exploration program of the Branch of Commercial Fisheries of the U. S. Fish and Wildlife Service) was carried out during the summer of 1950 aboard the vessel *John N. Cobb* (Powell, 1950). The tagging was undertaken in an effort to ascertain the practicability of using tags as one means of tracing the movements and migration patterns of albacore tuna in the fishery off the coasts of Washington, Oregon, and adjacent regions. During the exploratory fishing and gear-testing activities of the North Pacific tuna (exploration) survey, a number of albacore were caught which were surplus to program needs. Thus, an opportunity was presented for gaining practical experience with tagging problems including the development of suitable techniques for handling albacore during tagging operations. Because previous experiments in tagging of several species of tuna by various investigators have met with little or no success, difficulties were expected. Due to the relatively high velocity at which albacore move through the water, one of the first questions concerned the effect of the swimming speed on the loosening or tearing out of external tags applied to the fish.

A total of 397 albacore was tagged with Peterson disc tags 14.5 mm. in diameter and 35 were tagged with 16 mm. x 3 mm. plastic strip tags, attached either at the base of the second dorsal or on the caudal keel. Although no tagged fish were recovered, a letter from the Oregon Fish Commission stating that an albacore bearing tag marks had been landed at Astoria, Oregon, suggested that the fish were surviving the tagging ordeal but that the tags were somehow being detached from the fish. It seemed plausible that the velocities at which albacore are capable of swimming might well exert a force which would be sufficient to tear loose and free from the fish these types of tags. If this is true, the tag designed for albacore or other swift-swimming fish must not only be chosen according to sound biological principles, but must also be so designed as to withstand the physical forces that will be created by movement of the fish through the water. A tag that would satisfy these conditions might possibly be found by a trial-and-error tagging program; however, the authors believed that certain physical characteristics of fish tags could be tested under laboratory conditions. To conduct these laboratory tests, a water tunnel was constructed in which tags attached to fish could be observed while subjected to various water velocities.

The experiments were carried out at the University of Washington Hydraulics Laboratory at Seattle, Washington, and the authors wish to express their appreciation for suggestions and help contributed by its members. Thanks are also extended

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to the California Department of Fish and Game, Oregon Fish Commission, Washington State Department of Fisheries, and the Fisheries Research Board of Canada for submitting samples of fish tags used by their organizations.

#### EQUIPMENT USED

The water tunnel was essentially a 5-foot-long box (8 inches wide and 10 inches deep) with channel steel sides and clear lucite top and bottom (see cover). Along the sides, teak wood was designed in a fusi-form pattern to keep the distribution of water velocity past the fish nearly constant by maintaining the net flow area approximately equal. The entrance of the tunnel section was well rounded to eliminate eddy currents, and the kinetic energy in this section was partially recovered by an expander section downstream from the tunnel.

The fish was held in place by two transverse rods through the body.

The ends of the rods were

carried in sockets on each side of the tunnel. Originally, brass holders were used, consisting of 3/8-inch brass rods that were screwed out from an internally-threaded 1/2-inch rod through the fish. These proved inadequate both as to strength and to speed of assembly and were replaced with 3/8-inch standard pipes (see figure 1), that were held in place by 3/8-inch steel rods inserted through the pipes from the exterior of the tunnel. These new holders were considerable timesavers and of adequate strength. Cup-shaped aluminum washers, bolted against the fish, held it against any lateral motion.

Water was obtained from a one-acre holding pond with an operating head of one hundred feet. This head produced a maximum flow of 12.6 cubic feet per second, which was equivalent to a velocity flow of approximately 28 m.p.h. The water velocities in the tunnel were determined by a differential mercury gauge (see figure 2) measuring pressure difference between the 12-inch approach pipe and a restricted section near the tunnel entrance. This pressure differential was converted to miles-per-hour by a graph constructed from theoretical considerations and verified by a series of draw-down tests from a known volume of water held in a 6-foot-diameter surge tank connected with the approach line. The connections between the differential mercury gauge and the piezometers were made with plastic tubing. This tubing was ideal for such connection because entrapped air could easily be seen and hence eliminated. A separate high-pressure water line to the gauge was used in freeing the instrument of air and in holding it in readiness for the test runs.

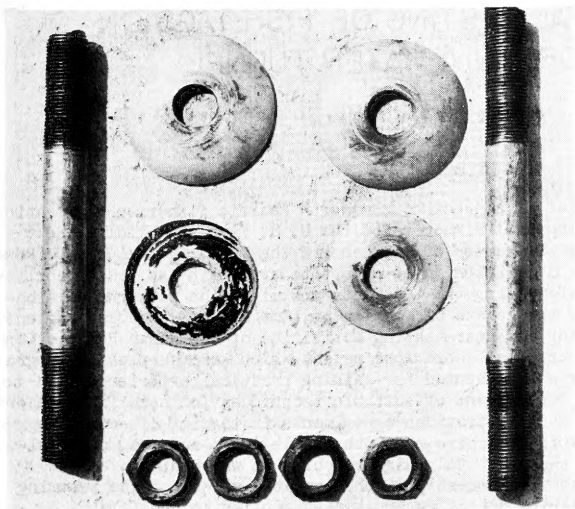


FIGURE 1 - FISH HOLDERS AND WASHERS.



## METHODS

Fish tags (see figure 3) were tested on albacore that had been frozen and partially thawed before being placed in the tunnel. In preparing a fish for the water tunnel, it was removed from cold storage and taken directly to the University of Washington Hydraulics Laboratory. There, the fish was placed under a drill press and two 5/8-inch holes, 9 inches apart, were made in the frozen meat for the holders, one slightly above the pectoral base, the other above the mid-line in the region of the second dorsal fin. On completion of drilling, the two 3/8-inch pipe holders were inserted through the holes and the cup-shaped washers were bolted against the sides of the fish (see figure 4). Several tags were then selected and arranged on the fish in various positions. In preparing the albacore for the tunnel, sufficient thawing occurred so that tags could be easily inserted in the fish; however, the interior portion remained frozen, holding the fish in position against the water flow. The fish was then arranged in the tunnel (see figure 5), the lucite coverplate bolted in position, the mercury gauge freed of air bubbles, and the valve controlling the water flow was opened slowly until the mercury reading corresponded to the desired velocity. Results of the experiment were then observed through the lucite plates.

Several limiting factors made it necessary to conduct each test for only a short period. The fish would thaw rapidly in the water and become difficult to hold at high velocities; and bruises to the fish received during landings or storage would open up under these high water velocities and result in the water forcing portions of the skin from the fish. The trials lasted from 6 to 14 minutes, the average being approximately 10 minutes. The general procedure was to increase the velocities at fixed intervals throughout the test until the tags were either dislodged or the fish showed signs of tearing loose from the holders. If the tags were not torn from the fish during the trial, the coverplate was removed and the condition of the tag and its effect on the fish was noted.

## RESULTS

**PETERSON TAGS:** Peterson (Rousefell and Kask 1943) tags of 8mm. diameter and of 14.5 mm. diameter were subjected to a number of tests in the tunnel. The tags of 14.5 mm. diameter were dislodged from under the dorsal fin at water velocities between 18 and 22 m.p.h. At water velocities approaching 15 m.p.h., the leading edge of the disc was forced outward from the fish, and with increasing velocities, the pin would gradually bend into a bow. It was then only a matter of seconds before the tags pulled from the meat of the fish. Disc tags of 8 mm. diameter secured under the second dorsal were dislodged at velocities from 23 to 25 m.p.h. Tent tests were made with the large disc and four with the smaller. Because of the shape of the



FIGURE 2 - DIFFERENTIAL MERCURY GAUGE USED IN TEST TO MEASURE PRESSURE DIFFERENCES.



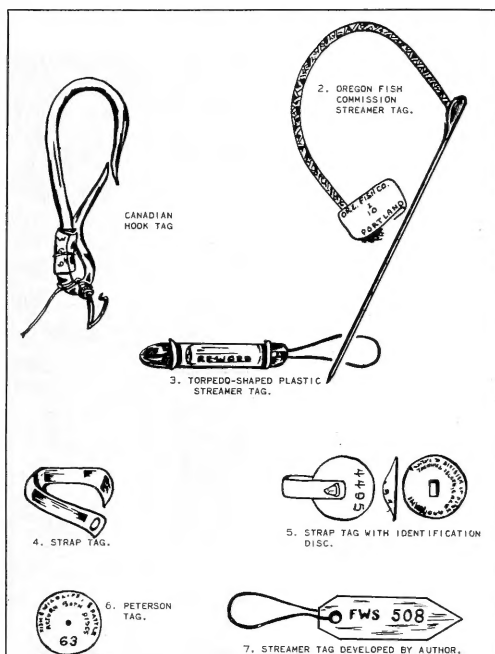


FIGURE 3 - TYPES OF TAGS TESTED ON ALBACORE IN WATER TUNNEL.

to tag 4,000 yellowfin and skipjack tuna. No recoveries were reported. The tag consisted of two parts: (1) a sterling silver strap 16 to 17 mm. long (crimped) by 3 mm. by 0.5 mm. and (2) a celluloid, cup-shaped disc 14.5 mm. in diameter. The tags were applied with modified long-nose pliers to the preopercle. Eight trials were made with tags of this style received from the California Department of Fish and Game.

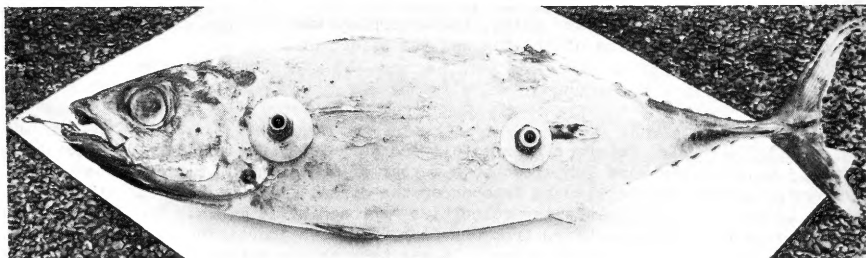


FIGURE 4 - ALBACORE READY FOR TESTING, WITH HOLDERS INSERTED AND SEVERAL TAGS IN PLACE.

albacore, it is difficult to obtain a close fit of the disc under the dorsal fin, and thus the water wedges under the tags and forces them from the fish. Peterson tags were also tried on the caudal peduncle and above the anal fin. Both of these regions were superior to the dorsal area and tags of 14.5 mm. diameter located in these positions were not lost until water velocities between 25 and 27 m.p.h. were reached.

**PLASTIC STRIP TAGS:** Plastic strip tags used were merely an adaptation of an internal body tag with a hole cut in the forward end. These tags, 4 mm. wide and 16 mm. long, designed to reduce water resistance, were secured under the second dorsal in the same manner as a Peterson tag. Four trials made in the tunnel were unable to tear these tags loose at maximum velocities (approaching 29 m.p.h.).

**STRAP OR CATTLE TAGS:** Strap, or cattle, tags of various sorts have been adopted for use on a variety of fish and good results have been obtained on several species. A modified strap tag was developed by Godsil (1938) and used



Four of the tests were made with the convex side of the disc facing the gill cover and four with the concave face of the disc facing the gill cover. Tags applied with the convex face of the disc against the preopercle were torn from the fish at relatively low water velocities; 15, 16.2, 16.8, and 18 m.p.h. The longest a tag remained attached at the above velocities was 2 minutes and 20 seconds at 16.2 m.p.h. The remainder of the tags were dislodged in less than one minute. On reversing the celluloid disc so the concave face was against the gill cover, the tags were not torn out so easily; but nevertheless, were forced from the fish at velocities of 21, 22.3, 22.5, and 23.8 m.p.h. These tags did not slowly work free but seemed to be suddenly jerked from the gill cover.

Small strap tags, 17 mm. long (crimped) and 3 mm. wide, as used by the California Department of Fish and Game in experimental mackerel tagging, were placed on the opercles of albacore. Eight tests made with this tag did not dislodge the tags at maximum velocities. When the fish were examined at the end of the test, some wearing was observed on the opercle, and in several instances the hole in the opercle had doubled in size. Fry and Roedel (1949) reported that of 14,053 fish tags of this type released in the California mackerel investigation, only 19 were recovered more than one year from the date of release.

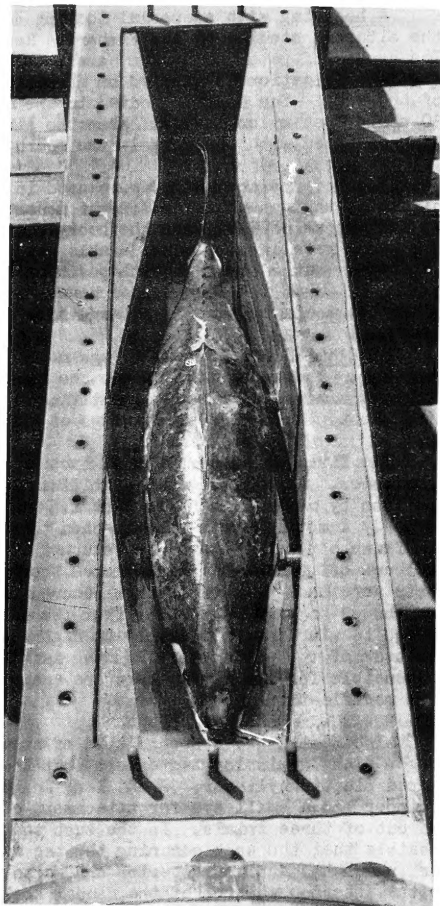


FIGURE 5 - ALBACORE IN TUNNEL PRIOR TO ACTUAL TESTING OF FISH TAGS.

**HOOK TAGS:** Fish hooks have enabled investigators to follow to a limited extent the migration of bluefin tuna (*Thunnus thynnus*) in the eastern Atlantic. Heldt (1928, 1929, 1932) relates a number of authentic cases in which hooks have been removed from bluefin tuna in the Mediterranean. These hooks from 4 to 8-1/2 cm. in length were traceable by their style and manufacturer, and were reported to have been lost by fishermen along the west coast of Spain and France. Many of the hooks were encysted in the stomachs of the fishes. These hooks were found in tuna of large size, and in most instances, the fish weighed over 200 pounds.



A hook tag with a special locking device is under experimentation for use in the albacore studies by the Fisheries Research Board of Canada (Anonymous 1950). The hooks, of patented design, are 6 cm. in length and are made of nickle wire. The identification is carried on a thin strip of metal secured around the shank of the hook. The hook is joined to the main trolling line by a short section of 30-pound test nylon leader. When the albacore strikes, the leader breaks and the fish is freed with the hook in the mouth.

Tags of the above type were used in nine trials in the water tunnel, being placed in various positions on the mouth of the albacore. These tags were subject to maximum velocities, and the hooks could not be dislodged. It was observed that the hooks were causing considerable drag on the jaws, which were forced as much as two inches out of their normal position by the force of the water on the shank of the hook. When the fish were removed from the tunnel, the tag had noticeably injured the mouth by tearing a large hole where the shank passed through the jaw.

STREAMER TAGS: Streamer tags may be considered as a modification of the Atkins-type tag. These are attached to the fish by a wire or thread piercing the flesh and have a metal or plastic identification streamer that trails behind the place of attachment. To our knowledge tags of this type have not been used for tagging tuna.

The first streamer tag used in the tunnel was one developed by the Oregon Fish Commission. A small, metal identification plate, 9 mm. by 15 mm., was secured to the fish by means of a nylon line 1.5 mm. in diameter and approximately 133 mm. in length. A metal needle was attached to the free end of the nylon line which pierced the flesh of the fish and was returned to the identification plate where a special tool cut off the needle and crimped the nylon to the tag in one operation. Four tests were made with these tags secured under the second dorsal, and all held firm and showed no sign of pulling from the fish. The metal identification plate was observed to vibrate considerably at high velocities and to continually strike against the back of the albacore. This tag is still in the experimental stage, and those responsible for its development are aware of the condition and are considering certain modifications.

Also tested was a second type of streamer tag, similar in most respects to the Oregon Fish Commission tag except that the metal plate was replaced by a torpedo-shaped plastic cylinder, 32 mm. long and 3 mm. in diameter. The forward end of the cylinder had a small eye for attachment of the thread. The tags held securely in two out of three trials. In the test that failed the meat was not torn and it is possible that the knot securing the tag was not properly tied. The plastic cylinder, which had a blunt anterior end, also vibrated greatly. This tag was attached to the anterior portion of the caudal keel.

The third streamer tag tested was developed by the senior author. It consisted of a flexible plastic streamer 8 mm. wide,  $\frac{3}{4}$  mm. long, and less than 1 mm. thick. The streamer was rounded on the anterior portion and tapered towards the back. A hole was punched close to the forward end through which braided nylon thread was passed. The two ends of the nylon thread were tied in such a manner that the thread formed a complete loop through the eye of the streamer. The tag was attached to the fish by means of a needle that had the eye at the piercing end. The double end of the nylon thread was passed through the eye, and the needle was then pushed through the anterior portion of the caudal keel of the tuna. The plastic streamer portion was brought through the double end and the tag was secured. This operation can be completed rapidly. This tag was tested seven times at maximum velocities and remained fixed throughout the trials.



## DISCUSSION OF RESULTS

The authors are aware that a number of factors involved in these experiments allowed variations from conditions which would exist in nature. The texture or consistency of the frozen fish to resist deformation would not be equal to that of a live albacore. The sides of the tunnel undoubtedly caused a certain amount of back turbulence; also the distribution of velocity along the body of the fish would vary slightly because of the changing area of flow. The muscular actions of live fish were also lacking. The experiments were conducted only for short periods, and tags would likely be dislodged at velocities lower than those experimentally determined when subject to the same forces over a longer period of time.

Despite these limitations, the tests indicated that the use of Peterson-type tags or any other tag which offers considerable resistance to the water flow will probably result in failure when used on a fish which swims at high speeds. This would include such tags as the batchelor button, Heincke stud, and the strap tag with identification disc. The plastic strip tags held in all tests and from the hydraulic standpoint should be satisfactory. Strap tags such as used in the California mackerel fishery could not be dislodged, but tests made in the water tunnel indicated that these tags would gradually work free. Hook tags developed by the Fisheries Research Board of Canada were not dislodged but resulted in injury to the jaw of the fish. This tag is still in the experimental stage and modifications could partially eliminate these faults. Reduction in the shank size and stamping the identification on the shank would reduce drag.

From the experimental results, it appears that the streamer tags (among those tested) offer the greatest chance of developing successful external tagging operations for tuna-like fish. In selecting a position to attach a tag, it should be kept in mind that any tag attached on the head or anterior region of the fish will receive maximum force from the water. Tags located on the caudal keel or in this region will receive the greatest action from lateral vibrations of the tail.

The solution to a successful tuna tagging operation first demands a tag which remains attached securely and will not impair the normal activities of the fish. Until a tag of known dependability has been developed, attributing the lack of returns only to such factors as insufficient tags released, high tagging mortality, poor tagging techniques, or to other causes does not seem justified.

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July 1951

REFRIGERATION: Freezing Fish at Sea, Defrosting, Filletting, and Refreezing the Fillets: The shakedown cruise of the experimental technological research trawler M. V. Delaware of the U. S. Fish and Wildlife Service indicated numerous changes and adjustments on the refrigeration and fish-handling equipment. While these changes were being completed, other maintenance and repair tasks were carried out, including scraping and painting vessel superstructure and deck gear, overhauling one of the Diesel electric auxiliaries, and modifying the wiring and piping systems in the engine room. Negotiations are under way to replace the in-operative foreign echo sounders with U. S. equipment. The installation was tentatively scheduled for late in July. (Boston)

Studies on Methods of Handling Frozen Salmon for Canning: Current tests are almost completed on the study of the effect of freezing and storing salmon on the quality of the subsequent canned product. Comparisons were made of test packs canned during 1949 and 1950 from pink (Oncorhynchus gorbuscha) and red salmon (O. nerka) frozen and stored under varying conditions of time and temperature. These tests have shown that exposure of frozen fish to oxidation and desiccation and length of frozen storage are the most important factors affecting the quality of the canned product. Frozen salmon must be heavily glazed and stored not over 6 to 8 weeks at 0° F. in order to minimize adverse changes of color, texture, and flavor in the canned product. Within practical limits, the rate of freezing and temperature of storage below 0° F. were not important factors. This work has also shown the need for additional study of the chemical and physical changes in salmon meat during the freezing and canning process if we are to better understand the cause of the adverse changes in texture.

Penetrometer tests made on canned pink salmon prepared from frozen fish and canned fresh pink salmon have shown that the texture of the salmon, frozen and stored at 0° F. for 6 weeks prior to canning, has changed almost as much as that stored at 0° F. for 24 weeks. Pink salmon stored for one week prior to canning showed a slight change in texture but not as great as that stored for 6 weeks. Increase in the toughening of the flesh is reflected by a decrease in the penetrometer readings. The average penetrations of 48 runs on each series were as follows:

CONTROL (CANNED FRESH) .....	21.5 MM.
1-WEEK STORAGE PRIOR TO CANNING .....	19.0 MM.
6-WEEKS STORAGE PRIOR TO CANNING .....	13.1 MM.
24-WEEKS STORAGE PRIOR TO CANNING .....	10.7 MM.

(Ketchikan)

\* \* \* \* \*



FISH COOKERY: The final assembling of 100 recipes for the Alaska Seafood Recipes cookbook has been completed. Three agencies, The Alaska Fisheries Experimental Commission, The University of Alaska Extension Service, and the Alaska Development Board are cooperating in providing funds for the publication of the cookbook. Ten thousand copies will be printed for free distribution. (Ketchikan).



### BROILED OYSTERS ON THE HALF SHELL



36 SHELL OYSTERS  
1/2 TEASPOON SALT  
1/8 TEASPOON PEPPER

1/2 CUP BREAD CRUMBS  
2 TABLESPOONS BUTTER  
OR OTHER FAT

Shuck and drain oysters; place on deep half of shells. Sprinkle with salt, pepper, and buttered bread crumbs. Place on preheated broiler pan, about 3 inches from heat, and broil for 5 minutes or until brown. Serves 6.

A Fish and Wildlife Service tested recipe. This is one in the series of recipes using fishery products tested and developed in the Service's test kitchens.





# TRENDS AND DEVELOPMENTS

## Additions to the Fleet of U. S. Fishing Vessels

Of the vessels of 5 net tons and over 120 received their first documents as fishing craft during May 1951—18 more than in May 1950. Washington led with 50 vessels, followed by Alaska with 15, and California with 11 vessels.

Some 364 vessels were documented for the first time as fishing vessels during the first five months of 1951, compared with 351 vessels for the same period during 1950.

Vessels Obtaining Their First Documents as Fishing Craft, May 1951					
Section	May		5 mos. ending with May		Total
	1951	1950	1951	1950	1950
	Number	Number	Number	Number	Number
New England .....	7	3	15	15	36
Middle Atlantic .....	5	12	20	24	45
Chesapeake Bay .....	-	9	6	31	81
South Atlantic .....	12	17	43	61	153
Gulf .....	18	16	86	65	167
Pacific Coast .....	61	31	142	97	231
Great Lakes .....	2	-	7	4	12
Alaska .....	15	14	44	54	83
Hawaii .....	-	-	1	-	4
Total .....	120	102	364	351	812

NOTE: VESSELS HAVE BEEN ASSIGNED TO THE VARIOUS SECTIONS ON THE BASIS OF THEIR HOME PORT.



## California Legislation Changes Sardine Fishery Laws

Two amendments of the fishery code of California passed by the State Legislature and signed by the Governor make certain changes in the State's sardine fishing regulations.

These amendments extend the Monterey fishing area about 65 miles south of the southern boundary previously in effect between August 1 and October 1 (the latter is the opening date of the southern California area). This means that the fishing area between Piedras Blancas Light and Point Arguello will now be opened with the northern sardine season on August 1.



## Section 1065 of the fishery code previously read as follows:

1065: Sardines may be taken for use in a reduction plant, or by a packer, only in accordance with the provisions of this article, as follows: In District 4, 4 & 3/4, that portion of District 18 lying south of a line running east and west through Piedras Blancas Light, 19, 20A, and 21, between October 1st and February 1st, inclusive; elsewhere in the State, except in District 20, between Aug. 1st and Jan. 15th. Sardines may be taken at any time on or after but not prior to June 1, 1951, for the purpose of salting, curing or smoking or drying, or for the purpose of packing in cans commonly known as quarter-pound or square cans less than ten ounces in net weight; provided, that in a 10-oz. can, fish of a size not less than eight fish to the can may be used. Sardines may be packed in their own natural oil.

The amendments changed the location underscored from Piedras Blancas Light to read "Point Arguello," and the date underscored in the above excerpt from June 1, 1951, to "June 1, 1952". Since these amendments were deemed emergency measures they became effective immediately upon

the close of the legislative session and the signature by the Governor on June 23, 1951.

In addition, the revised regulation permitting sardine fishing within 2 miles of the shore line between the south boundary of Santa Barbara County, and the north boundary of San Luis Obispo County does not become effective until September 23, 1951, although sardines may be landed at Morro Bay, within that area, prior to September 23, 1951.

Piedras Blancas Light is located on the California coast approximately 35°40' N. longitude and Point Arguello approximately at 34°35' N. longitude. This means that sardine fishing grounds (and points of landing and packing) have been extended about 65 miles southward on the opening of the northern California sardine season on August 1. Fishing crafts will probably unload fares at Morro Bay for transshipment to Monterey, Moss Landing, and San Francisco canneries instead of making the long haul to these ports direct. This will permit these vessels to fish each night of the dark-of-the-moon period instead of every other night.



## California's 1951-52 Sardine Catch Forecast at 285,000 Tons

California's harvest of sardines during the 1951-52 season will drop to about 285,000 tons, it was predicted at the last meeting of the State Marine Research Committee in Monterey, according to a news release of August 1 from the California Division of Fish and Game.

To back up their forecast, the scientists of the California Division of Fish and Game can fall back on their advance prediction of the 1950-51 sardine catch, which proved 93.4 percent accurate. The seasonal catch amounted to 350,000 tons, while the technicians foresaw landings of 327,000 tons.

The three-year-old Marine Research Committee, sponsored by the California sardine industry, is in the midst of one of the largest fisheries investigations in the world. It is coordinating the research efforts of the California Division of Fish and Game, California Academy of Sciences, Scripps Institution of Oceanography, and the U. S. Fish and Wildlife Service.

Titled "The California Cooperative Sardine Research Program," the project is dedicated to finding out why the pilchard—foundation of a conservatively-estimated \$25,000,000 California industry—is disappearing from coastal waters.

Besides its annual catch prediction, the Committee is looking into the life history of the sardine, including its migratory and spawning habits, and the effect of environmental factors, such as water temperature, type and availability of food, competition from other fish species, and ravages of predatory fish.



## Federal Purchases of Fishery Products

FRESH AND FROZEN FISH PURCHASES BY THE DEPARTMENT OF THE ARMY, JUNE 1951: A total of 3,070,923 pounds of fresh and frozen fishery products were purchased by the Army Quartermaster Corps during June 1951 for the military feeding of the U.S. Army, Navy, Marine Corps, and Air Force (see table). Compared with May 1951, June purchases increased 6.6 percent in quantity and 15.7 percent in value. Compared with June of the previous year, the 1951 purchases for the same month were greater by 100.2 percent in quantity and 106.0 percent in value.

Purchases of Fresh and Frozen Fishery Products by Department of the Army (June and the First Six Months, 1951 and 1950)							
Q U A N T I T Y				V A L U E			
J u n e		January-June		J u n e		January-June	
1951	1950	1951	1950	1951	1950	1951	1950
lbs.	lbs.	lbs.	lbs.	\$	\$	\$	\$
3,070,923	1,533,551	14,598,689	6,366,424	1,295,946	629,046	6,033,318	2,691,444

Purchases for the first six months of 1951 and 1950 show that there was an increase of 129.3 percent in quantity (over 8 million pounds) and 124.2 percent in value for 1951.



## Freezing-Fish-At-Sea Technological Studies

"DELAWARE" ON BIOLOGICAL-TECHNOLOGICAL JOINT CRUISE: The M/V Delaware left East Boston on August 10 for a joint cruise (Cruise No. 2) between the Service's Branch of Commercial Fisheries and the Branch of Fishery Biology. The vessel, which is being used in conjunction with the Branch of Commercial Fisheries' Freezing-Fish-At-Sea Project, is expected to operate on Georges Bank and return on or about August 23.

The cruise will be divided into two phases. The first phase, approximately 8 days, will be devoted to a census of the groundfish population on Georges Bank covered by statistical areas XII, J, M, and N to supplement data obtained last summer by the Albatross III now on loan to the U. S. Navy. Sample tows will be made at stations in depths up to 125 fathoms. A modified trawl is to be used.

The second phase of the cruise, approximately 4 days, will be devoted to commercial-scale experiments on the freezing of round fish for later processing ashore. A modification of the brine-freezing apparatus made after Cruise No. 1 will be tested out. Commercial-size lots of round fish of various species and sizes will be frozen for determination of freezing rates. Certain adjustments made to the refrigeration machinery will also be tested. Fish frozen at sea will be used for pilot-plant thawing experiments ashore and for laboratory work.

\* \* \* \* \*

DELAWARE EXPERIENCES DIFFICULTY WITH FREEZING EQUIPMENT (Cruise No. 2): The Branch of Fishery Biology in cooperation with the Branch of Commercial Fisheries used the latter's experimental trawler Delaware in order to conduct the first phase of the



1951 census of Georges Bank. The vessel returned to Boston from an 11-day voyage on August 25.

En route to and during the stay at Woods Hole, Massachusetts, to assemble and pick up the modified census trawls for the trip, the refrigeration machinery for use in the Freezing-Fish-At-Sea project of the Branch of Commercial Fisheries was tested. During the testing of the brine cooler, which refrigerates brine for the freezing of fish at sea, leaks developed in the tubes of the brine cooler. This precluded the freezing of fish as planned on this cruise. However, round and gutted fish, caught during the last day on the fishing bank, were preserved in ice for use on shore for studies to determine the freezing and thawing rates and other laboratory experiments.

\* \* \* \* \*

"DELAWARE" TO BE USED FOR CENSUS OF GEORGES BANK: In order to carry out the second half of the 1951 census of Georges Bank, a second joint cruise between the Service's Branch of Commercial Fisheries and the Branch of Fishery Biology was scheduled for the first week of September. The converted trawler Delaware, the Branch of Commercial Fisheries' experimental vessel for freezing-fish-at-sea technological studies in the New England area, left for Georges Bank (subareas G and O) on August 30 and is expected to return to Boston on September 6.

While on this cruise (Cruise No. 3), leaks that developed in the brine cooler in the refrigeration machinery room during Cruise No. 2 will be located and repairs made after return to Boston.

Fish caught in the census operations conducted by the North Atlantic Fishery Investigations of the Branch of Fishery Biology will be used for shore experiments for the freezing-fish-at-sea project of the Branch of Commercial Fisheries.



### Lake Erie Fisheries Management Committee Formed

Michigan will be represented on a committee being formed to coordinate fisheries work in Lake Erie, that State's Department of Conservation announced in July.

Formation of the Lake Erie Fisheries Management Committee was the result of a meeting held in Toledo at the invitation of Ohio fisheries men to discuss fisheries problems in Lake Erie. Representatives of New York, Pennsylvania, and Ontario, in addition to those from Ohio and Michigan, attended and will have membership on the committee.

It is expected that the committee will meet annually to promote coordination of fisheries work done on the Lake in relation to commercial and sport fishing, biological lake studies, and water pollution.



### Maryland to Study Oysters in Chincoteague Bay

During the past session of the Maryland legislature, funds were appropriated for the purpose of studying the hydrography and biology of the waters of Chincoteague Bay area in order to discover the factors controlling oyster growth and survival in



that area. This region is especially noted for its production of high-quality oysters. Once a thriving industry, the oyster industry in Chincoteague Bay has declined considerably in recent years, according to the Maryland Department of Research and Education which is going to conduct the proposed study. Heavy losses among the oysters and their failure at times to make the desired growth are given as the chief reasons for this decline.

The study is designed primarily to discover the factors controlling oyster growth and survival in that area, the possibilities of controlling natural enemies, and the effects of variations in the methods of planting, and types of seed oysters used. Data will be gathered on circulation, salinity and temperature variations, turbidity, and chemical constituents of the water. Tidal fluctuations will be recorded and an attempt made to determine and evaluate the effects which were caused by the opening of the inlet at Ocean City in 1933.

A biologist in charge of the survey will be permanently stationed on the Bay. Information on the clam population, crabs, fin fish, and other organisms will also be gathered. The chief interest, however, will center upon oyster production since it is felt that the potential values which would result from its restoration to a thriving industry would offer the greatest returns in added food production, employment, and resultant wealth to the people of the area.



### Michigan Sells Three Mussel Licenses

Three licenses have been sold for taking mussels on the St. Joseph River in Michigan this summer, according to that State's Department of Conservation. A July news release from that agency points out that these are the first such licenses to be issued since 1949 when mussel license sales totaled three for the Grand River.

In the 1930's, when interest in taking mussels reached a peak, sales totaled as high as 2,400 licenses for one year. The shells of these mussels are used for making buttons.



### New England Tuna Explorations

"WESTERN EXPLORER" PURSE SEINES BLUEFIN TUNA OFF CAPE COD: On Cruise No. 3, the M/V Western Explorer again was able to purse seine bluefin tuna off Cape Cod. This vessel, operated by the Service's Branch of Commercial Fisheries, is searching for untapped resources of bluefin tuna in waters principally off the shores of Maine and Massachusetts.

On July 26, the M/V Western Explorer left East Boston for the fishing grounds off Cape Cod to search for bluefin tuna. No fish were sighted that day and that evening the vessel anchored in Provincetown Harbor.

On the morning of July 27, tuna were reported schooling off Wood End. A set was made around a school of tuna, but the fish escaped before the seine could be pursed. Later that day a set was made in 14 fathoms of water around a second school. The net was back aboard the vessel four hours later. Approximately seven tons of 15-



39-pound bluefin tuna were landed. Most of them were 27-37 inches in length. The surface water temperature at the time of sighting the school was 74° F. Examination of the stomach contents disclosed that some of the tuna had been feeding on squid and a small unidentified species of fish, while many stomachs were completely empty.

Bad weather was encountered on July 28 and the day was spent at anchor in Provincetown Harbor.

Although the following day was overcast, the sea was calm, and three schools of tuna were sighted. The surface water temperature was 71° F. A perfect set was made around the largest school in 14 fathoms of water. Unfortunately the winch clutch broke down before the seine could be pursed. After 30 minutes the clutch was put in order, but only one cable at a time could be pursed. During this process the seine became embedded in the mud and a portion of the lead and cork lines were torn from the mesh. After circling inside the seine several times, the fish escaped through rips which developed in the mesh. It was estimated that 40-45 tons of tuna had been trapped in the seine.

On July 31, a total of 13,730 pounds of bluefin tuna were sold to a Gloucester firm for seven cents per pound. The vessel returned to East Boston the same day for repairs to the net and winch clutch.

Examination of the gonads of the fish caught seemed to indicate that they were in an undeveloped condition. There were no visible accompanying signs among the tuna schools sighted.

\* \* \* \* \*

"WESTERN EXPLORER" TO SEARCH FOR BLUEFIN TUNA FURTHER NORTH: The Service's New England tuna explorations vessel, the Western Explorer, left East Boston on or about August 3 for an 8-day cruise. Expected to return on or about August 10, the vessel during Cruise No. 4 will operate in waters between Cape Ann, Massachusetts, and Mt. Desert, Maine.

Search for bluefin tuna schools will be made in the coastal waters off Massachusetts, New Hampshire, and Maine. Fishing operations will be carried out as before, with the modified tuna purse seine which has undergone repair. The winch clutch has been repaired and no further trouble is anticipated during the pursing operation. Surface water temperature, weight-length measurements of the tuna, and other data will be obtained and contact will be maintained with other vessels fishing in the area and with the Fish and Wildlife Service office in East Boston.

\* \* \* \* \*

"WESTERN EXPLORER" LANDS MORE BLUEFIN TUNA (Cruise No. 4): With seven tons of bluefin tuna in the hold, the Service's Branch of Commercial Fisheries exploratory fishing vessel Western Explorer completed Cruise No. 4 on August 12. The fish was landed at Gloucester, Mass. Four fish companies submitted purchase bids and the fish were sold to the highest bidder (a Beaufort, S. C., firm) for \$200 per ton, somewhat higher than the price paid for the last trip--\$140.

The cruise started on August 4 when the vessel left East Boston and headed east to Ipswich Bay and the Isle of Shoals. For three days the area between Cape Ann and Cape Porpoise, Maine, was searched for school tuna. No fish were spotted and on the fourth day the ship steamed southwest to Cape Cod Bay where school tuna had been sighted by otter trawlers operating in that area.



On August 7 a set was made in 14 fathoms of water off Wood End Light and five tons of small tuna were captured. The fish averaged 25 pounds each.

Fog and heavy winds impeded fishing operations during the next two days, but on August 10 two tons of tuna were seined off Barnstable, Mass. The set was made in 13 fathoms of water and the fish were of the same weight class as the school previously caught near Wood End Light.

Small pods of tuna were sighted off Race Point Light on August 11. No sets were made as the fish appeared to be chasing smaller fish and did not surface for any length of time.

The vessel left Gloucester on August 15 on Cruise No. 5. Operations will be concentrated on Ipswich Bay, Jeffreys Ledge, Cashes Ledge, Boon Island, Sequin Island, Monhegan Island, and Mount Desert Rock. The trip will take about 10 days.

\* \* \* \* \*

ANOTHER TRIP OF BLUEFIN TUNA LANDED BY "WESTERN EXPLORER" (Cruise 5): A small trip of bluefin tuna was landed on August 25 at Gloucester by the Western Explorer, the Service's Branch of Commercial Fisheries exploratory fishing vessel, which is searching for untapped resources of this fish in New England waters. This was the end of the vessel's Cruise No. 5.

The vessel left Gloucester on August 16 and cruised in the vicinity of Fippenies Ledge, about 60 miles east of Cape Ann, where tuna schools had been sighted by some of the otter trawlers a few days previously. No fish were sighted in this area and the vessel steamed northwest towards Boon Island, Maine. On August 18 a report was received that large schools of tuna had been sighted in the vicinity of Seal Island, Nova Scotia. After steaming for 15 hours east southeast, the vessel encountered a strong northwest wind with heavy seas making it impossible to carry on fishing operations. However, no fish were seen and the ship steamed back toward Mt. Desert Island.

The following three days were spent cruising in the Bay of Fundy, south of Grand Manan Island and between Campobello Island and the northeast tip of Grand Manan. No tuna schools were seen, considerable fog was encountered, and the return trip to the westward was begun on August 23. No fish were spotted in the waters around Matinicus Light and Monhegan Island, but two sets were made on August 24 in the vicinity of Boon Island, Maine. The first set was made in 30 fathoms of water, but no fish were captured. The second set, made in 24 fathoms of water, yielded 41 large fish. The fish averaged about 250 to 300 pounds in weight. Late in the afternoon of the same day four large schools were sighted, but due to the fact that the fish were in comparatively shoal water, from 10 to 19 fathoms, and over rocky bottom, no attempt was made to seine the fish. The following day there was a fresh breeze from the northeast and no fish were seen in the area.

A total of 9,000 pounds of tuna were weighed out and the fish were sold to a Gloucester firm for \$100 per ton.

Following refitting and repairs to the generator and clutch, the ship will sail on Cruise No. 6 on or about August 30. Area to be covered: Stellwagan Bank and the area approximately 50 miles east southeast from Cape Ann. Duration of trip will not exceed 8 days, and it is expected that the ship will land in Portland, Maine.

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## New Legislation Governs Operation of Refrigerated Warehouses in New Jersey

New legislation governing the operation of refrigerated warehouses in the State of New Jersey became effective July 19, 1951--the date on which it was approved by the Governor, according to an announcement of the New Jersey State Department of Health of August 2.

The new law regulates the "storage of food or drink used by man or animals in refrigerated warehouses and locker plants," and provides for the issuance of licenses for the conduct of such establishments. The new legislation is Chapter 342, Laws of 1951, which repeals Chapter 9 of Title 24 of the Revised Statutes.

This recently-approved legislation reflects the most recent scientific information and developments in the refrigerated warehouse business, the State Health Department points out.

Hitherto, the license fee for a refrigerated warehouse was \$10 per year, regardless of size. Chapter 342 sets up a graduated schedule of fees based on size. The minimum fee is \$25. Under the new schedule, warehouse license fees will be more nearly in line with the costs of inspection.

Under the previous legislation, licenses expired a year from date of issuance. Under the new legislation, all licenses expire June 30 and are immediately renewable.

Under the previous legislation, warehouse operators were required to submit to the State Department of Health a tabulation of articles in storage at the end of each month. The new statute simply requires that such reports shall be submitted upon request of the State Commissioner of Health.

Under the old legislation, items could not be stored for more than 12 months without special permission from the State Department of Health. The new maximum is 24 months. Extensions may be granted by the State Commissioner of Health.

The old legislation required marking of stored articles as "Cold Storage Goods." That requirement has been omitted from the legislation.

Under the former legislation, date of storage and date of withdrawal were required to be placed on each item. This requirement has been omitted from the legislation now in effect.

The new legislation strengthens regulation of refrigerated warehouses while at the same time abolishes certain unproductive and inconvenient requirements imposed upon operators by the old act.

Restaurant proprietors, farmers, and home owners who store products for use on their own premises are exempt from the provisions of the act.



## North Atlantic Fishery Investigations

GEORGES BANK 1951 CENSUS (First Phase): Through a cooperative agreement with the Branch of Commercial Fisheries, the North Atlantic Fishery Investigations is



conducting the 1951 census of Georges Bank with that Branch's vessel Delaware.

The Delaware returned to Boston on August 25 (Cruise No. 2) after completing the first phase of the survey. Fifty-seven stations were occupied in subareas N, M, J, and H. Fish of all species were found to be extremely scarce in the southern part of the Bank (subarea N). Large catches of scrod haddock (1-2 years) were caught in 40-50 fathoms of water near the edge of the Bank in subareas M and J. These catches were made in areas being fished by the commercial fleet. Considerable numbers of large haddock were caught in deep water (100 fathoms) in subareas J and H where the commercial fleet was not fishing.

Seven bushels of scallops were obtained in a  $\frac{1}{2}$ -hour tow made in 48 fathoms of water at 40°50' N. latitude and 67°04' W. longitude, which considering the fact that the Delaware was using an Iceland trawl with rollers may indicate a scallop bed of commercial possibilities.

In addition to data on size and numbers of all species of fish, 57 bathythermograph casts were made and 55 bottom samples were obtained.



### North Pacific Exploratory Fishery Program

"JOHN N. COBB" COMPLETES SEASON'S ALBACORE EXPLORATIONS (Cruise No. 8): After spending two months in albacore tuna explorations off the coasts of Oregon and Washington, the Service's Branch of Commercial Fisheries exploratory fishing vessel John N. Cobb returned to Seattle on August 10. The main objectives of this cruise were to intercept albacore in the early stages of their migration towards shore; appraise the possibility of using gill nets and floating stainless steel long lines for capturing albacore commercially, and experimentally tag albacore.

Results of the albacore fishing in the areas worked by the John N. Cobb on this cruise generally were poor. Fish were taken in small amounts by means of gill nets and trolling, while the wire long-line gear took no tuna. Tagging was accomplished whenever sufficient fish were located. Subsurface sea temperatures were recorded several times daily, and surface temperatures were taken at hourly intervals.

After passing Cape Flattery on June 11, the vessel headed on a southwesterly course in an attempt to locate surface water 57° F. and over, since albacore are not usually found in colder waters. On June 14 approximately 370 miles west of Cape Blanco, Oregon, waters of 57° F. were encountered.

After reaching the warm water, the vessel fished until July 1 in an area extending from the Oregon-California boundary north to the Siuslaw River, and as far as 500 miles offshore without catching any albacore, although on June 29, while trolling approximately 450 miles west of the Siuslaw River, Oregon, one albacore was brought to the stern of the John N. Cobb before breaking loose. Northwesterly winds of gale force considerably hampered operations. However, several long-line and gill-net sets were made, and trolling with surface lures was carried on continuously during daylight hours.

Tuna were not again observed until July 14, when three albacore were taken in gill nets 98 miles west of the Siuslaw River, Oregon; however, trolling in this area produced no tuna.



Several schools of jumping albacore were sighted on July 17 in an area approximately 135 miles west of Tillamook Head, Oregon, but none were caught in this area until July 18, when a single albacore was boated by the John N. Cobb.

From July 25 to August 1, several hundred boats of the commercial tuna fleet assembled on the tuna grounds approximately 60 miles west of Tillamook Head, Oregon, and results for these boats ranged from poor to fair before scarcity of fish caused the fleet to head for shore. On August 3 the John N. Cobb again observed scattered schools of albacore in this same general area. Efforts to catch these tuna by trolling were unsuccessful; however, nine albacore were captured in the gill nets on August 4.

The vessel then went to the seamount area at a position  $46^{\circ}44'$  N. latitude,  $130^{\circ}47'$  W. longitude, approximately 270 miles west of Willapa Bay, Washington. Long-line and gill-net sets in the seamount area caught many blue sharks but no albacore. On August 9 three albacore were caught trolling 47 miles west of Cape Johnson, Washington.



## Outlook For Fishery Products For Second Half of 1951

Consumption, Distribution and Retail Prices: Civilian per capita consumption of fishery products in the United States during the first half of 1951 was slightly larger than a year earlier and is likely to remain somewhat above the comparable 1950 rate during the next few months.

This discussion appeared in the outlook report prepared by the Bureau of Agricultural Economics, U. S. Department of Agriculture, in cooperation with the U. S. Fish and Wildlife Service, and published in the former agency's July-September 1951 issue of The National Food Situation. The net movement of fresh and frozen fishery products into distribution channels through June was about 5 percent greater than in the same months last year; trade reports indicate that the movement of the major species of canned commodities was also above that in the same months of 1950.

Retail prices for fresh and frozen fishery products in urban areas for January-June 1951 averaged 5 percent higher than a year earlier, and the seasonal price decline last spring was not as pronounced as in the same season of 1950. Among the major canned fishery products, trade reports indicate that retail prices in the first half of the year were above those in the same months last year except possibly for tuna. Retail prices for fishery products in July-December 1951 are expected to average somewhat higher than in the latter half of 1950.

Catch and Production of Fishery Products: Preliminary reports on the commercial catch of food fish and shellfish through midyear indicate that landings were about as large as a year earlier. The commercial production of edible and inedible frozen products in the continental United States and Alaska totaled about 142 million pounds through June, over 21 percent larger than the output in the first 6 months of 1950. With civilian takings of fishery products likely to be maintained at a higher rate this year than last and prices expected to remain relatively strong, commercial fishermen will be encouraged to maintain their fishing operations at a high level.

Canned Fishery Products: Total supplies of the 4 major varieties of canned fishery products in the first half of 1951 were at least as large as a year earlier. Less canned salmon was available but supplies of pilchards, sardines, and tuna were somewhat larger in total. The 1951 pack of canned fishery products, which is currently in progress and will reach a seasonal peak in the next few months, is expected



to be somewhat smaller than a year earlier. Under the provisions of NPA control order M-25, which limits the use of tin cans, no restrictions are planned on the available amount of these containers for the production of the major species of canned fishery products this year. Restrictions on the use of tin cans for the packing of less important species of fish and shellfish will limit output of individual processors on the basis of their production in 1949 or 1950, whichever year the individual processor selects as a base period for the purpose of computing his container needs.

Foreign Trade: Imports of fishery products during January-June 1951 were larger than a year earlier. Receipts of frozen groundfish (cod, haddock, hake, pollock, cusk, and ocean perch) fillets from abroad totaled 42 million pounds, more than 30 percent greater than a year earlier. Exports of canned fishery products from the United States were substantially higher than in the same months last year. Prospects are that both imports and exports will continue large during the remainder of the year. The volume of exports in 1951 probably will exceed those of 1950.



## Pacific Oceanic Fishery Investigations

EXPERIMENTAL GILL-NET TUNA FISHING OPERATIONS OFF HAWAII: In order to conduct experimental gill-net tuna fishing operations off the Kona coast of Hawaii, the Territory of Hawaii Fish and Game vessel Makua left Honolulu Harbor on July 2. Using linen and nylon gill-net gear, the vessel fished off the Kona coast and returned to Honolulu on July 26.

A total of 11 sets with 7 or 8 shackles of gear per set was made, of which 7 sets were made at night and 4 sets during the day. All sets were "blind," that is, made in the absence of surface signs of fish. The mesh sizes used were graduated from 4" to 11".

The tunas caught consisted of five skipjack tuna (Katsuwonus pelamis) and 3 frigate mackerel (Auxis thazard). Also caught were 4 dolphin, 1 shark, 1 mantaray, and 2 trigger fish (Balistes). The skipjack, which ranged from 4 to 14 pounds, and the frigate mackerel were caught on five of the seven night sets in 5", 6", and 7" mesh nets. The skipjack were all caught singly in separate nets.

This catch while small does indicate that tuna can be caught in gill nets in the clear waters of this area.

\* \* \* \* \*

CALIFORNIA PURSE-SEINE SKIPPER APPOINTED TEMPORARY MASTER OF "JOHN R. MANNING": In order to continue purse-seining tests as a means of fishing for tuna around the Hawaiian Islands, the Service's Pacific Oceanic Fishery Investigations has appointed Capt. Joseph Vilicich as temporary master of the Investigations' research vessel John R. Manning. Captain and owner of the California tuna purse seiner Resolute, the new master is one of the topflight purse-seine skippers.

Because the tuna around the Hawaiian Islands swim faster and in smaller schools than those on the mainland, and because the trade winds make purse-seine fishing difficult, previous attempts at purse seining in this area have not been successful.



The Fish and Wildlife Service, however, believes that a further attempt by a proven skipper and a seasoned crew of local fishermen with the use of the Service's light linen seine may still make a success of this type of fishing.

The John R. Manning is scheduled to leave Pearl Harbor for the fishing grounds on July 17.

\* \* \* \* \*

"JOHN R. MANNING" CONTINUES EXPERIMENTAL TUNA PURSE-SEINING OPERATIONS (Cruise VII-B): Continuing its experiments on the use of a standard West Coast tuna purse seine to catch tuna in Hawaiian Islands waters, the John R. Manning left Honolulu on July 21. After devoting 26 days to the search, this vessel of the Service's Pacific Oceanic Fishery Investigations returned to port on August 15.

The net used was of linen, 400 fathoms long and 46 fathoms deep. A skilled purse-seine captain, Joseph Vilicich, directed the operation.

During the cruise, 60 schools of tuna were sighted. Most of these were skip-jack. Seven sets were made with the purse seine. All of these were on fish. On several of the sets, fish could be seen in the circle at half net, but apparently they sounded as no tuna were captured. Except for two days during the cruise period, strong trade winds and heavy seas confined the operation to the lees of the islands.

Possible reasons for failure of the purse seine are as follows:

1. EXTREMELY ERRATIC BEHAVIOR OF MOST SCHOOLS MADE IT VERY DIFFICULT OR IMPOSSIBLE TO MANEUVER THE VESSEL INTO A SETTING POSITION.
2. EXTREME CLARITY OF THE WATER CAUSED THE FISH TO BECOME ALARMED AND SOUND ON DROPPING THE NET.
3. THE ERRATIC BEHAVIOR OF THE FISH FREQUENTLY RESULTED IN THEIR SWIMMING OUT OF THE NET BEFORE THE CIRCLE COULD BE COMPLETED.

During the course of the cruise, biological material was collected whenever this activity did not interfere with purse seining and scouting for tuna.

The next cruise of the John R. Manning will test the use of a purse seine in cooperation with a bait boat in Hawaiian waters. The bait boat will be used to concentrate the fish while the net is set and pursed. The vessel will depart from Honolulu about August 21, 1951.

\* \* \* \* \*

"HUGH M. SMITH" CONDUCTS BAIT AND LIVE-BAIT TUNA FISHING IN THE LINE AND PHOENIX ISLANDS (Cruise IX): The main purpose of the Hugh M. Smith's Cruise IX was to conduct bait fishing and live-bait tuna fishing. This research vessel of the Service's Pacific Fishery Investigations left Pearl Harbor on May 5 and returned on July 2.

Bait fishing was conducted at French Frigate Shoals, Lisianski, Midway, Palmyra, Christmas, and Canton Islands. In addition, the vessel scouted for bait in the vicinity of Laysan Island, Pearl and Hermes Reef, Johnston, Fanning, and Gardner Islands.

Live-bait fishing for tuna was conducted in the waters adjacent to the Line Islands, including Kingman Reef, Palmyra, Washington, Fanning, Christmas, and Jarvis



Islands, and in the waters adjacent to the Phoenix Islands, including Canton, Gardner, Hull, Sydney, and Birnie Islands.

Of the 51 tuna schools on which fishing was attempted, fish were caught from 23, yielding approximately 31 tons of yellowfin tuna. The largest catch from a single school was an estimated 8 tons of yellowfin tuna, captured in the vicinity of Kingman Reef. Also, the greatest number of tuna schools were observed in the vicinity of Kingman Reef. Tuna schools were found to be abundant in the Line Islands area, and fishing, generally, was confined to the waters within 15 miles of the nearest land.

Tuna schools appeared to be scarce in the Phoenix Islands area; however, the greatest number were sighted in the vicinity of Canton Island.

A total of 1,135 buckets of bait were captured, consisting of wholehole (Kuhlia sandvicensis), several species of goatfishes (Mullidae), iao (Atherina insularum) and several species of mullet (Mugilidae). Of this total, 570 buckets were caught at Midway Islands. Small amounts of bait were captured at French Frigate Shoals, Palmyra, Christmas, and Canton Islands.

In order of importance, wholehole, goatfish, and iao proved to be excellent bait fishes. Mullet was found to be an inferior bait fish.

Surface trolling was conducted during daylight hours when under way. The troll catch consisted of 40 yellowfin tuna, 2 skipjack, 25 wahoo, 12 kawakawa, 10 ulua, 3 rainbow runners, and 3 mahimahi. The best fishing for this type of gear was at Kingman Reef.

In addition, the vessel made systematic plankton tows and hydrographic observations by means of the bathythermograph and recording thermograph throughout the area of operations. Biological data and materials from the tuna catches were also obtained.

\* \* \* \* \*

OCEANOGRAPHIC STUDIES IN HAWAIIAN WATERS BY "HUGH M. SMITH" (Cruise X): After completing 33 hydrographic stations in waters around the Hawaiian Islands, the Hugh M. Smith, one of the Service's Pacific Oceanic Fishery Investigations vessels, returned to Pearl Harbor on July 31 from its Cruise X.

The purpose of this trip was to determine the current systems and the chemical composition of local waters. This research is a part of the work under way to find out what causes seasonal ups and downs in the fisheries for tuna and aku (skipjack) in central Pacific waters, generally, and the local waters, particularly.



## Pacific Pilchards Reported Moving North Earlier Than In 1950

The Pacific sardine (pilchard), mainstay of one of California's richest fisheries, started moving north to spawn earlier this year than it did in 1950, according to a report of the California Marine Research Committee.

During February a few eggs and larvae were found off Southern California, an area where none were taken by research vessels until April 1950. Each year, spawning



gradually spreads to the north from Baja California, where the earliest, and frequently the heaviest, spawning takes place.

Early appearance of eggs and larvae off Southern California is revealed in the interim progress report submitted to the Committee by the California Academy of Sciences, the Division of Fish and Game, the Scripps Institution of Oceanography, and the U. S. Fish and Wildlife Service.



## Wisconsin Adopts Carp Management Program for Lake Koshkonong

The Wisconsin State Conservation Commission approved the purchase of 6.67 acres of land near Lake Koshkonong for the purpose of carp control and management work, the Commission announced in April this year. Carp taken from this lake and nearby waters has averaged around 1,000,000 pounds per year since 1935, and it has been suggested that this area be opened to commercial fishing on a year-round basis.

Last year, 1,443,000 pounds of carp were taken from this lake by three commercial fishing crews and one Department crew. The latter crew alone removed 617,000 pounds of carp from this lake at a cost of 1.1 cents per pound. An official from the Fish Management Division suggested that contract fishing by commercial fishermen be continued. Due to the high rate of productivity of these carp, an opinion was expressed that it may be necessary for the State agency to move in whenever it is necessary to keep the carp under control. Commercial fishing activity in this lake has not in the past been adequate in removing sufficient carp.

Since 1935, a total of 16,694,780 pounds of carp has been removed from Lake Koshkonong and more than 5,000,000 pounds from adjacent Rock River waters. A member of the Fish Management Division states that "Under good management procedure, our crews can assure reasonably adequate control..."



## Wholesale and Retail Prices

WHOLESALE PRICES, JUNE 1951: In spite of the seasonal increase in production experienced during June in the major fisheries throughout the country, over-all prices for edible fishery products remained steady at May levels. However, there were some price fluctuations within the various categories of fishery products. A substantial decline in canned fishery products prices was offset by increases in prices of all other types of fishery products. The wholesale over-all index for edible fish and shellfish (fresh, frozen, and canned) for June was 108.9 percent of the 1947 average (see table)—the same as in the previous month, but 14.6 percent higher than June 1950, the Bureau of Labor Statistics of the Department of Labor reports.

With the exception of round whitefish and fresh or frozen dressed salmon, all items under the drawn, dressed, or whole finfish category in June were priced higher than in May. Large offshore drawn fresh haddock rose 7.0 percent. From March through May frozen halibut prices had dropped steadily, but in June the trend was reversed and fresh or frozen Western halibut prices were up 3.0 percent. Fresh or frozen king salmon, on the other hand, dropped 0.9 percent. Compared with June 1950, prices this



June were higher for fresh drawn haddock by 10.0 percent and for fresh or frozen king salmon by 11.0 percent, but fresh or frozen Western halibut prices were still 14.1 percent lower. The drawn, dressed or whole finfish subgroup index this June was 2.9 percent above the previous month and 4.2 percent above June 1950.

Table 1 - Wholesale Average Prices and Indexes of Fish and Shellfish, June 1951, with Comparative Data

GROUP, SUBGROUP, AND ITEM SPECIFICATION	POINT OF PRICING	UNIT	AVERAGE PRICES (\$)			INDEXES (1947 = 100)		
			June 1951	May 1951	June 1950	June 1951	May 1951	June 1950
ALL FISH AND SHELLFISH (Fresh, Frozen, and Canned) .....						108.9	108.9	95.0
Fresh and Frozen Fishery Products: .....						105.3	102.5	99.7
Drawn, Dressed, or Whole Finfish: .....						110.5	107.4	108.0
Haddock, large, offshore, drawn, fresh .....	Boston	lb.	.11	.10	.10	114.2	106.7	103.8
Halibut, Western, 20/80 lbs., dressed, fresh or frozen .....	New York City	"	.31	.30	.36	90.1	87.5	104.9
Salmon, king, lge. & med., dressed, fresh or frozen .....	" " "	"	.52	.53	.47	127.5	128.7	114.9
Whitefish, mostly Lake Superior, drawn (dressed), fresh .....	Chicago	"	.46	.43	.39	131.8	124.6	112.7
Whitefish, mostly Lake Erie pound net, round, fresh .....	New York City	"	.48	.59	.55	108.2	133.6	123.5
Lake trout, domestic, mostly No. 1, drawn (dressed), fresh .....	Chicago	"	.48	.42	.39	104.3	91.7	86.2
Yellow pike, mostly Michigan (Lakes Michigan & Huron), round, fresh .....	New York City	"	.40	.40	.32	94.5	93.4	74.1
Processed, Fresh (Fish and Shellfish): .....						98.1	95.8	90.1
Filletts, haddock, small, skins on, 20-lb. tins .....	Boston	lb.	.28	.30	.27	99.7	106.4	96.6
Shrimp, lge. (26-30 count), headless, fresh or frozen .....	New York City	"	.63	.59	.62	90.3	85.3	88.7
Oysters, chucked, standards .....	Norfolk area	gal.	4.50	4.50	3.69	110.8	110.8	90.8
Processed, Frozen (Fish and Shellfish): .....						104.8	102.2	101.4
Filletts: Flounder (yellowtail), skinless, 10-lb. bxs. ..	Boston	lb.	.42	.41	.34	135.6	132.3	109.7
Haddock, small, 10-lb. cello-pack .....	"	"	.24	.24	.25	109.7	110.0	114.8
Ocean perch (rosefish), 10-lb. cello-pack .....	Gloucester	"	.23	.24	.19	113.8	117.8	94.0
Shrimp, lge. (26-30 count), 5-lb. bxs. ....	Chicago	"	.64	.60	.68	91.9	85.2	90.4
Canned Fishery Products: .....						114.5	118.5	87.9
Salmon, pink, No. 1 tall (16 oz.), 48 cans per case .....	Seattle	case	23.89	24.62	15.08	155.7	160.5	98.3
Tuna, light meat, solid pack, No. 3 tuna (7 oz.), 48 cans per case .....	Los Angeles	"	14.13	15.00	14.24	91.9	97.6	92.7
Sardines (pilchards), California, tomato pack, No. 1 oval (15 oz.), 48 cans per case .....	"	"	6.75	6.75	5.50	75.5	75.5	61.5
Sardines, Maine, keyholes oil, No. 3 drawn (3 1/2 oz.), 100 cans per case ..	New York City	"	6.78	6.75	6.20	66.5	66.2	60.8

Prices for fresh processed fishery products in June rose 2.4 percent as compared to May and were 8.9 percent higher than in June 1950. Prices for fresh haddock filletts during the month dropped 6.3 percent below May, but were 3.2 percent higher than in June a year earlier. Fresh headless shrimp prices have been rising steadily since December 1950 and in June this year continued their rise to 5.9 percent above May. Shrimp prices this June were 1.8 percent higher than in June 1950.

In spite of ample stocks, processed frozen fish and shellfish prices this June rose 2.5 percent above May and were 3.4 percent higher than in June 1950. From May to June substantial increases in frozen flounder fillet prices (2.5 percent) and frozen headless shrimp (7.9 percent) were offset by substantially lower prices for frozen ocean perch filletts (3.4 percent) and frozen haddock filletts (0.3 percent). Frozen headless shrimp prices have been steadily increasing since January this year but in June they were still 6.6 percent below the corresponding month a year earlier; and frozen haddock fillet prices this June were 4.4 percent lower than in June 1950. On the other hand, this June's quotations for frozen flounder filletts and ocean perch filletts were higher than in June 1950 by 23.6 percent and 21.1 percent, respectively.

Canned fishery products prices in June dropped due to a decline in tuna and salmon. The month's index for this subgroup was 3.4 percent lower than in May, but 30.3 percent above June 1950. From May to June, prices for California sardines held steady; Maine sardines rose slightly; but prices dropped for California tuna



by 5.8 percent and for pink salmon by 3.0 percent. Compared with June 1950, this June's prices were higher for pink salmon by 58.4 percent, for California sardines by 22.8 percent, for Maine sardines by 9.4 percent, but lower for California tuna by 0.9 percent.

RETAIL PRICES, JUNE 1951: Retail prices for all foods decreased 0.2 percent between May 15, and June 15, making the adjusted retail food index on the latter date 226.9 percent of the 1935-39 base-period average. This is 11.7 percent higher than the retail price food index of 203.1 for the same period of the previous year (table 2).

Table 2 - Adjusted Retail Price Indexes for Foods and Fishery Products, June 15, 1951, with Comparative Data

Item	Base	I N D E X E S		
		June 15, 1951	May 15, 1951	June 15, 1951
All foods .....	1935-39 = 100	226.9	227.4	203.1
All fish and shellfish (fresh, frozen, & canned) .	do	356.3	353.1	295.9
Fresh and frozen fish .....	1938-39 = 100	291.4	287.1	268.4
Canned salmon: pink .....	do	511.0	511.7	344.1

The decline in the retail prices for all foods sold to moderate-income urban families is not consistent however, with the advancement in the average prices paid for all fish and shellfish prices at the retail level. From mid-May to mid-June, the retail price index for all fish and shellfish increased from 353.1 to 356.3 percent of the 1935-39 average, or a 0.9 percent rise. Compared with the same period of 1950, this index was 20.4 percent higher.

Chiefly responsible for the increase in average retail prices for all fish and shellfish were fresh and frozen fish. The retail index for this latter category rose 1.5 percent from mid-May to mid-June. Fresh and frozen fish average prices were 8.6 percent higher than on June 15 the previous year.

In anticipation of the new pack of salmon and conforming to the substantial drop at wholesale, the average retail prices of canned pink salmon dropped 0.1 percent from mid-May to mid-June—the first price decrease recorded for canned salmon since June 1950. However, pink salmon retail prices this June 15 were still 48.5 percent higher than on June 15, 1950.







## International

### FOOD AND AGRICULTURE ORGANIZATION

COUNCIL MEETS IN ROME HEADQUARTERS: The Twelfth Session of the FAO Council, the first to assemble in FAO's new headquarters in Rome, met June 11-23 to review FAO's progress and problems since the last Council session. The representatives of 17 member governments who attended the session found the FAO staff well established in Rome. All members of the Council were represented, with the exception of Venezuela. Twelve governments which are not members of the Council also had observers at the meeting, and international nongovernmental organizations were well represented.

The recommendations of the Working Party on the Program of Work and Long-Term Problems were presented to the Council. Included among the recommendations was a conclusion that the Conference should consider ways to provide the Organization with adequate funds to take care of the activities for which FAO is constitutionally responsible. In addition, the Working Party's recommendations set out general principles for guiding the direction of FAO's work and covered a number of other points, including the need for public information on FAO's work.

A paper giving the United States' views on the FAO's Expanded Technical Assistance Program points out that in the brief period the program has been in operation, 46 countries and territories had already signed or were negotiating agreements; some 226 experts from 28 countries are already in the field or are being recruited; and provision has already been made for 136 scholarships. The U. S. statement suggests several lines of improvement and mentions the importance of coordination of technical assistance programs by countries which are receiving the assistance.

The Council reviewed the world food and agriculture situation (including fisheries), finding that production was higher in 1950-51 than in 1949-50, but that food supplies were not satisfactorily distributed.

It agreed on arrangements for the next session of the FAO Conference, suggesting how the Conference might be organized and some of the subjects that should be discussed. It decided that the date for the Conference should be November 19 instead of November 5, because the building that is being constructed in Rome for the Conference most likely will not be ready by the former date.

The Council learned that the FAO finished 1950 with a surplus of about \$300,000, and contributions from member governments for 1951 were coming in better than they had in 1950. The question of how large the budget should be for 1952-53 was discussed, but the decision is up to the Conference. The Council agreed in principle with the recommendation of the Committee on Financial Control that the Working Capital Fund should ultimately be \$2,500,000, but thought that the goal should be reached in stages.



## WHALING

THIRD ANNUAL MEETING OF THE INTERNATIONAL WHALING COMMISSION: With preliminary meetings commencing on July 19, the Third Annual Meeting of the International Whaling Commission convened at Capetown, South Africa, on July 23, 1951. This Meeting was to consider such matters as possible amendments of the Schedule of the Convention; action taken by the member governments to promulgate certain laws and regulations concerning whaling in conformity with the provisions of the Convention; the method of reporting infractions of the regulations and the penalties for infractions; the status of ratification and adherence of several countries to the Convention; possible amendments to the rules or procedure; and administrative and budgetary matters, a July 19 U. S. Department of State press release announces.

The United States Delegation is as follows:

UNITED STATES COMMISSIONER:

DR. A. REMINGTON KELLOGG  
DIRECTOR  
UNITED STATES NATIONAL MUSEUM

DEPUTY UNITED STATES COMMISSIONER:

DR. HILARY J. DEASON  
CHIEF, OFFICE OF FOREIGN ACTIVITIES  
FISH AND WILDLIFE SERVICE  
DEPARTMENT OF THE INTERIOR

ADVISORS:

JOHN F. STONE  
AMERICAN CONSULATE GENERAL  
CAPETOWN

FRED B. TAYLOR  
OFFICE OF THE SPECIAL ASSISTANT TO THE  
UNDER SECRETARY FOR FISH AND WILDLIFE  
DEPARTMENT OF STATE

The International Whaling Commission was established pursuant to the International Convention for the Regulation of Whaling, which was signed at Washington on December 2, 1946, and entered into force on November 10, 1948. The United States is one of seventeen Contracting Governments comprising the membership of this Commission. The Commission is charged with responsibility within the framework of the Convention for safeguarding the whale stocks of the world. Within strictly defined limits, the Commission may amend the Schedule, an integral part of the Convention, by adopting regulations designating protected species, fixing closed seasons and waters, limiting total catches and the sizes of whales taken, defining standards for measurement of whales, and establishing requirements for statistical and other records.

The Second Annual Meeting of the International Whaling Commission was held at Oslo, Norway, July 17-21, 1950.

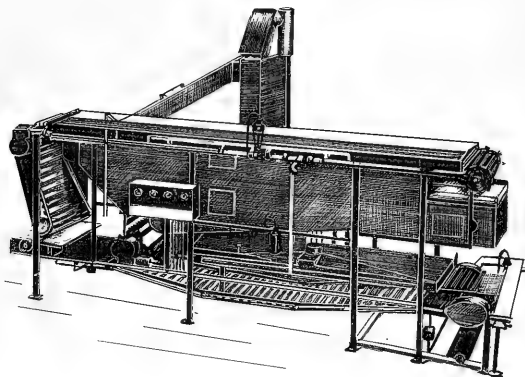
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WHALE OIL PRODUCTION ALMOST SOLD OUT: Very little whale oil is being offered as the entire Antarctic production has now been disposed of and the only quantities for sale are for delivery in the last three months of the year, which is too far forward for most buyers to consider making commitments, according to the June 1951 issue of Norsk Avfangst-Tidende (The Norwegian Whaling Gazette). This is based on a British market report dated June 20, 1951.



## Belgium

NEW AUTOMATIC SARDINE COOKER DEVELOPED: An automatic cooker for sardines, brisling, and other fish has recently been developed by the International Machinery Corporation S. A. in Belgium, a March 1951 article in the Danish periodical Konserves reports.



SKETCH OF NEW AUTOMATIC SARDINE COOKER DEVELOPED IN BELGIUM. COMES IN TWO SIZES, AND THE ABOVE SKETCH SHOWS THE SMALLER OF THE TWO. THESE MACHINES ARE REPORTED IN OPERATION IN BELGIUM, FRANCE, SPAIN, PORTUGAL, TUNIS, MOROCCO, AND NORWAY.

By this new method, cans are automatically filled with raw fish and cooked in steam or hot air. All fats and fish oil are extracted from the fish during the process. Next, oil or tomato sauce is added to the cans and the machine completes the process by sealing the cans at a temperature of 85° to 90° C. (185° to 194° F.).

The new method reduces the handling of the fish from 20-60 percent. Oil savings are claimed to be 15 percent higher than by former methods.



## Canada

BRITISH COLUMBIA 1951 SALMON PACK TRENDS: The British Columbia 1951 pack of pink salmon is expected to be good. Even though this is an off-cycle year for sock-eye salmon, the over-all salmon pack is expected to be good. Packers anticipate that higher production costs will probably increase the canned salmon prices, and in that event the manufactured value of the fish for the current season will probably exceed C\$50,000,000, in spite of the fact that the pack will undoubtedly be less than that of last year, according to a July 19 bulletin from the American Consulate at Vancouver.

On July 18, 1951, the receipt of an order for salmon from the British Ministry of Food amounting to C\$6,000,000 was announced. It is believed that the bulk of the shipments to the United Kingdom will consist of pink, chum, and coho salmon.

The 1950 market value of the salmon catch was approximately C\$48,700,000. Of this amount C\$15,500,000 represented sales of fresh and frozen fish mostly to the State of Washington. The balance of C\$33,200,000 represented the value of 1,482,560 cases of the 1950 salmon pack.

Last year British Columbia packers exported 980,000 cases of canned salmon to 40 countries, and of this amount 427,000 cases were shipped to Great Britain.

\* \* \* \* \*



**NEWFOUNDLAND FISHERIES, 1950:** Introduction: Newfoundland's fisheries during 1950, in spite of increased catches in several instances, passed through an uncertain and unusually difficult period of changing world conditions, resulting in the future of this major industry becoming increasingly a concern of both the Provincial and the Dominion Governments, an American consular dispatch from St. John's dated April 2 reports. At the year's close, considerable widespread discontent among fishermen became manifest with the result that early in 1951 the Provincial Government suddenly took the initiative in proposing the formation of a Newfoundland Fisheries Development Committee and other steps looking to the betterment of fishermen as a class.

Table 1 - Selected Products of the Fisheries of Newfoundland, 1949-50

Item	1950	1949
	lbs. 2/	lbs. 2/
Salmon, dressed .....	2,900,000	3,388,000
Fillets and other dressed fish .....	34,367,520	24,663,195
Pickled herring .....	9,000,000	14,625,000
Salted cod .....	95,200,000	117,600,000
Live lobster exports .....	4,400,000	4,150,000
	Metric Tons	Metric Tons
Herring meal .....	1,455	1,104
Whale meat .....	1,510	1,676
White fish and bream meal .....	2,440	1,778

1/ NO DATA AVAILABLE ON ACTUAL LANDINGS.

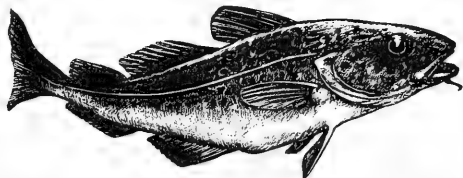
2/ PRODUCT WEIGHT.

Production of fishery products by Newfoundland fishermen in 1950 was somewhat below 1949 due to decreased herring landings (table 1). Actual data on 1950 landings are not available, but production of Newfoundland's fisheries (excluding Labrador) in 1949 was estimated at 585,320,300 pounds (landed weight).

Government Administration of Fisheries: The assimilation and integration of Newfoundland's fisheries with those of Canada by virtue of the 1949 Confederation were not readily realized, but reasonably good progress was reported in spite of substantial differences in outlook and procedure. The effort made to meet difficulties which attended the marketing of salted cod was a primary issue during all of 1950. In addition, local fishermen say that the devaluation of the pound sterling in September 1949 was the worst single adverse blow ever suffered by the Newfoundland industry, with the result that in the spring of 1950 exporters of cod were faced with an apparent "carry over" of about a quarter of their salt cod production (30,240,000 to 31,360,000 pounds).

Salted Cod: The greater part of the salted cod on hand early in 1950 was moved to markets, but financial sacrifices were not avoided. To move the fish, "dumping" of some fish (where large quantities were involved) and "holding" of a part of the 1950 catch for several months were necessary.

Production of salt cod was expected to be below average at the beginning of 1950 because of the poor marketing outlook and the low morale among fishermen and merchants. However, the morale of the fishermen was raised somewhat by the Canadian Government's announcement that dollars would be provided (up to 4,480,000 pounds) to countries able to provide sterling currency only. This included Portugal, Greece, Italy, and Spain, important export markets which normally take about 50 percent of Newfoundland's annual production. These countries have been unable to make dollar purchases during recent years. Contracts were also made for substantial shipments of salted cod to Jamaica and Puerto Rico. The result was an estimated 1950 catch of 95.2 million pounds, 22.4 million pounds below the preceding year (table 1).





With respect to 1950 fish, a "floor" price placed on Labrador catches (C\$7.00 per 112 pounds) hastened the desired exchange of fish locally. However, as Canada is a dollar country, the exchange problem has not been solved with "soft" currency countries where controls prevent currency exports. Among the cod-consuming nations dealing in devaluated currencies, an increasingly strong incentive has been given to build up domestic fishing fleets in order to cope with local demand for cod.

The Newfoundland Associated Fish Exporters, Ltd., a cooperative export marketing group, continued to handle the export marketing of salt cod during 1950.

Inshore cod fishing for 1950 in Newfoundland was described as "very successful" in some sections of the Northeast Coast, but below average in others, particularly in White and Green Bays.

Deep-sea fishing was even worse than during 1949, again due to the hesitancy of fishermen to follow the sea, by reason of the clouded domestic and international situation. Only 40 deep-sea vessels operated in 1950 as compared to 88 in 1949, and the total catch of these for 1950 was estimated at 5,600,000 pounds as compared to 134,400,000 pounds, the year before.

Table 2 - Newfoundland's Production of Dressed and Filleted Groundfish and and Flatfish and Stocks on Hand at End of Year by Species, 1949-50				
Product	Production		Stocks on Hand at End of Year	
	1950	1949	1950	1949
	lbs.	lbs.	lbs.	lbs.
Filleted and dressed:				
Cod .....	17,410,210	10,264,256	1,782,309	461,313
Catfish (wolffish) .....	112,920	55,305	370	200
Flounder .....	2,292,501	1,340,250	95,560	56,725
Gray sole .....	571,855	377,306	73,490	108,250
Haddock .....	7,162,181	8,089,735	3,240	138,670
Hake .....	4,240	6,330	-	-
Halibut .....	243,735	98,528	872	4,625
Rosefish .....	6,569,878	4,431,485	372,080	770,984
Total .....	34,367,520	24,663,195	2,327,921	1,540,767

The Government discouraged fishermen from prosecuting fisheries in Labrador, due to the difficulty in marketing "Labrador cure." The Labrador catch for 1950 was estimated at 6,720,000 pounds as compared to 12,320,000 pounds in 1949 when 144 "floaters" (fishing vessels which move from one fishing area to another and store fish aboard) operated as compared to but 65 during 1950.

There was an abundance of bait during 1950, mostly due to the appearance of large schools of squid.

Frozen Fish: Production of frozen fish continued to expand during 1950 with a production of 34.4 million pounds, compared with 24.7 million pounds for the preceding year (table 2).

Production of frozen cod fillets for 1950 was reported at almost 16,650,000 pounds, an increase of some 6,385,000 pounds as compared with 1949's production.

Production of other processed frozen fish, such as ocean perch (rosefish), flounder, sole, and halibut, was also above that for the preceding year. The United States was the principal market for this type of product and little difficulty was reported in marketing.



A total of 17 draggers operated during 1950 in this type of fishery as compared with 13 for 1949.

Frozen fish continues to play an increasingly important role in the Newfoundland industry with all indications pointing to its further expansion.



FILLETING OPERATION AT A LARGE FISH PLANT IN ST. JOHN'S, NEWFOUNDLAND.

Herring: Fishing for herring during 1950 showed a considerable decrease in catches as compared with recent years. Whereas 65,000 barrels of pickled herring (14.6 million pounds) were prepared during 1949, not over an estimated 40,000 barrels (9 million pounds) were packed during 1950 (table 1). The Fisheries Board has been in the habit of negotiating contracts each season on behalf of packers. During the 1949-50 season a contract for 16,000 barrels (3.6 million pounds) was concluded at "very satisfactory prices," but of the total quantity covered by contract only 5,667 barrels (1.3 million pounds) were actually packed.

In the belief that Scotch-Cured herring controls are no longer necessary and frequently not to the advantage of the fishermen, they will now be discontinued, particularly since it has been shown that packers often fail to produce even half of the quantities contracted for. Scotch-Cured herring were, by law, to be packed only during the period October 1 to January 31, with extension permissible in certain cases.

It is of interest to recall that during 1950 the Newfoundland Government attempted to bring Icelandic herring boats to Newfoundland, believing that methods of curing herring as practiced by Icelanders would better meet marketing needs. The experiment was a decided failure, however, with more than C\$250,000 reported to have been lost to the Provincial treasury.



Lobster Fishery: The 1950 lobster catch was reported to have established a record in both volume and value. The season is only about two months. As fishermen now receive higher proceeds for live lobster, the canning of lobster in Newfoundland has been sharply reduced in all areas. The lobster season is only about two months in duration and calls for long hours and hard work. A well-enforced law protects "short" lobsters from being sold as well as female lobsters in spawning condition. In eastern Newfoundland, the principal production area, reports indicate that lobsters are not decreasing in numbers.

Returns to fishermen were higher than in previous years, the average price paid being 18 cents per pound as compared with 15 cents during 1949. During 1950, about 4,400,000 pounds of live lobster were exported as against 4,150,000 pounds for 1949. Lobster fishing on the West Coast of the island, however, was not as successful as elsewhere.

Salmon: Scarcity of salmon limited the production of this species to 2.9 million pounds, almost a half million pounds less than in 1949; however, salmon fishing was described as "generally good" and highly remunerative to the fishermen. About 4,000 cases of canned salmon were packed, of which 1,000 cases were exported and the balance sold locally.

Mackerel and Squid: Mackerel and squid fishing was good, although the squid pack was small, due to a lessening demand for this product.

Meal: A new record was established for the production of fish meal, and several new processing plants were set up in various parts of the Island. Production of herring meal was 1,455 metric tons (table 1), substantially above the 1949 total of 1,104 tons. There was also a considerable increase in production of white fish and



HANDLING FISH OFFAL FOR REDUCTION AT A LARGE FISH PLANT IN ST. JOHN'S, NEWFOUNDLAND.



breem meal (2,440 tons in 1950, compared with 1,778 tons in 1949). Reduction of caplin was undertaken on a fairly large scale during the year, with preparations made to handle up to 112,000 barrels. Delays in the delivery of pressing machinery hampered output, but a total of 91,692 barrels were processed during the year.

The reduction plants are situated at Bay of Islands, Williamsport, and Corner Brook. Caplin was processed into meal and oil at the latter plant.

A slight reduction in the amount of whale meal produced during 1950 (1,510 tons) as compared with 1949 (1,676 tons) was noted.

Vessels and Fishermen: A general decrease was noted during 1950 in the number of vessels and fishermen (table 3). The explanation given for this is that the

Table 3 - Number of Vessels and Fishermen Engaged in Newfoundland's Fisheries, 1949-50

Item	1950 No.	1949 No.
Vessels:		
Deep-sea .....	40	88
Floater <sup>1</sup> .....	65	144
Trawlers (cod fishery) .....	17	13
Total vessels .....	122	245
Fishermen in cod fisheries ...	22,550	28,000
<sup>1</sup> "FLOATERS" - FISHING VESSELS WHICH MOVE FROM ONE FISHING AREA TO ANOTHER AND STORE FISH ABOARD.		

Government discouraged fishing operations in the Labrador area because of difficulty in marketing species taken in that area, and the uncertainty of the international situation. The Provincial Government estimates that between 27 and 28 thousand Newfoundlanders earn their livelihood as fishermen. Of this total, 22,500 were engaged in cod fishing during 1950--a decrease of 5,450, compared with 1949.

Sealing: Due mainly to the poor market demand for marine oils, only four vessels took part in seal fishing with a catch of 81,908 seals as compared with 135,446 for 1949 (table 4).

Considerable serious and intensive study of seal fisheries in Newfoundland has been made by the Government with the result that

1951 should be more active. The number of men engaged in sealing in 1950 totaled 250, while 670 men took part in 1949.

Table 4 - Newfoundland's Seal and Whale Catch, 1949-50

Item	1950 No.	1949 No.
Seals .....	81,908	135,446
Whales .....	485	546

In 1949, one steamer and 14 motor vessels hunted seals. The number of men engaged in sealing in 1950 totaled 250, while 670 men took part in 1949.

Whaling: Two whale processing plants (as during 1949) were in operation during 1950--one at Hawkes Harbor and the other at Williamsport. A total of 485 whales were caught as compared to 542 in 1949 (table 4). The season runs from June to October, or early November. Close supervision was maintained by the Government over both plants during the entire season and similar inspection work will be continued in 1951.

Exports: Newfoundland's exports of dry-salted cod were 99,060,304 pounds in 1950, an increase over the 1949 exports of 75,557,552 pounds (table 5). Important markets for these products were Portugal, Italy, Brazil, and countries in the Caribbean area. While the exports of dried cod destined for the United States decreased in 1950 by 142,684 pounds, the export of wet-salted cod more than doubled.

Outlook for 1951: The outlook for Newfoundland fisheries is encouraging, particularly now that Newfoundland, as the youngest Province in the Dominion of Canada, will regularly receive financial and technical assistance from the Federal Government.



Table 5 - Newfoundland's Exports of Salted Cod (Quantity and Value), 1949-50

Item	Q U A N T I T Y				V A L U E			
	Dry-Salted			Wet-Salted	Dry-Salted			Wet-Salted
	Bank & Shore	Labrador	Total		Bank & Shore	Labrador	Total	
	lbs.	lbs.	lbs.	lbs.	C\$	C\$	C\$	C\$
Total Exports:								
1950 .....	73,557,232	25,503,072	99,060,304	6,671,168	10,993,244	3,154,948	14,148,192	509,780
1949 .....	57,208,928	18,348,624	75,557,552	8,214,192	9,821,345	2,644,846	12,466,191	740,051
Exports to United States:								
1950 .....	153,104	45,024	198,128	4,178,496	27,460	8,047	35,507	323,472
1949 .....	214,816	126,000	340,816	1,873,200	42,220	20,526	62,746	163,516

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NEWFOUNDLAND CONVERTING TWO LABRADOR SCHOONERS FOR LONG-LINING: The Government of Newfoundland is planning to convert two Labrador schooners for long-lining, according to St. John's Daily News of July 10. The news item continues: "The vessels are to be organized as training ships under a joint agreement with the Government of Newfoundland and the Government of Canada for a period of five months. They are expected to operate in long-lining for cod, turbot, and halibut on the North East Coast (Newfoundland) and to concentrate off the Labrador Coast in late September until weather conditions preclude operation."



### Costa Rica

EXCHANGE CONTROL LAW COVERING RE-EXPORTS AND TRANSHIPMENTS OF FISH AMENDED: Costa Rica has passed a new law which will amend Law No. 1304 which was promulgated primarily to exempt from certain provisions of the current exchange laws tuna caught beyond the territorial waters of Costa Rica, and then transshipped in her harbors or frozen in Puntarenas for shipment to the United States. The amendment, Law No. 1310 dated June 28, 1951, and promulgated on July 1, 1951, changes the former law (Law No. 1304) only to the extent that the phrase "in extraterritorial waters" now reads "in waters outside of the gulfs of the Republic," the American Embassy at San Jose states in its July 5 report.

In proposing the adoption of Law No. 1310 to the Assembly, the Costa Rican Minister of Agriculture pointed out that it was not feasible to determine whether or not fish were caught in extraterritorial waters. Therefore, it would be preferable to have the pertinent legislation specify those waters whose geographical limits indicate the possibility of State control. It was his Ministry's intention, he went on to say, that it proposed Law No. 1304 to reserve insofar as possible fishing in the waters of the Costa Rican gulfs for domestic purposes inasmuch as local fishermen are not economically enabled to fish outside of the gulfs. A third reason was advanced in support of the language now adopted... "Also it is known that many other fishing zones exist outside of the gulfs which are unexplored and whose wealth, available for the greatest benefit of the country, will remain unexplored if national or foreign initiative and sufficient capital do not develop them."

1/SEE COMMERCIAL FISHERIES REVIEW, JULY 1951, P. 35.





## Eritrea

FISHERIES REPORT, 1950: Of the 4,200 metric tons of fish produced in Eritrea during 1950, about 4,000 metric tons were manufactured into fish meal and exported, reports a June 26 American consular dispatch from Asmara. The remainder of the production was consumed as food locally.

In addition, some 400 metric tons of sea shells (mother-of-pearl, trocas) were produced and used by the local button factories.

A Fisheries Inspector at Massawa has been appointed by the Administration to control and organize the fishing industry.



## Gambia (British West Africa)

FISHERY RESEARCH VESSEL TO OPERATE OFF THE GAMBIAN COAST: A fishery research vessel, Cape St. Mary, is being fitted out for the West African Fisheries Research Institute, according to an article which appeared in the June 1951 African World and reported by the American consulate at Dakar.

The vessel has been built with funds supplied by the British Government under the Colonial Development and Welfare Act. In addition to normal trawler equipment, it has a laboratory, an electrohydraulic trawl winch, hydrographic winch, and liver-oil extractors. Next to the refrigerated fish room, which has a capacity of 3,000 cubic feet, there will be an ice-making plant capable of producing 28-lb. blocks at the rate of one ton every 24 hours. The liver-oil plant is on the main deck and will be able to produce three tons of oil in ten days.

The ship's complement will include two scientific officers whose initial aim will be to investigate any species of fish in the area, and to study seasonal migration. Experiments will be made to determine the methods best suited to surface, mid-water, and deep-sea fishing. The Cape St. Mary will carry two motorboats, one of which will be equipped with an echo sounder.

\* \* \* \* \*

FLOATING FACTORY SHIP TO DEVELOP WEST AFRICAN FISHERIES: A special floating fish factory ship has been fitted out by the British Colonial Development Corporation and sent to the Colony of Gambia to develop its fisheries, according to The South African Shipping News and Fishing Industry Review of June 1951.

Vessel Specifications: The factory ship, African Queen, is a twin-screw re-fitted British Navy supply ship of 2,000 tons B.R.T. powered by two internal combustion four-stroke vertical single-acting direct-drive engines, each developing 720 h.p. The vessel is equipped with a quick-freezing and a canning plant, and also cold-storage facilities. Cans delivered in bulk and flat will be essembled aboard the vessel, filled with fish, sterilized and sealed, labeled, and stored on board until they can be unloaded.

This ship will perform all of the functions of a parent ship, having ten small motor boats which will do the actual fishing and bring the catch to the factory ship for processing. The crew will number about 20 European technicians and 40 Africans to handle the fishing, canning, and processing of the fish.



Fishery Products to be Produced: The African Queen will catch, skin, carve, cook, can, and freeze tunny (tuna) and other edible fish; catch sharks, cure and dry the skin, extract and process the oil from the liver, fillet and dry the flesh for African and European markets, as well as process the other parts into fish meal for poultry and other animal feeding. Tunny will be fished by methods found successful in the Canary Islands, and other methods used on the Pacific Coast of North America will be employed. The fish vary in weight from 30 to 60 pounds and are of the albacore, yellowfin, skipjack, and bluefin varieties. Some of the tuna will be processed into steaks in the hope of finding markets for this product in Britain as well as Africa.

Sharks will be taken by means of bottom-set gill nets and long lines similar to those employed to catch halibut in Northern fisheries. These hempen lines carry chain snoods with large shark hooks at 4-ft. intervals. The sharks most likely to be caught will be the tiger, hammerhead, nurse, and pequin. There is also the screwfish (a shark species) which weighs from 700-1,000 pounds. Nearly 8 percent of the shark's weight is made up of liver which is particularly rich in vitamin A.

Fishing Operations: Spiny lobster (crawfish) occur locally in considerable quantities in West African waters. South Africa does a large trade in canned rock lobster meat, most of which is exported to America and bring in dollars. Spiny lobsters, like the sharks, are bottom feeders and will be caught by means of tangle nets and seines set in deep water.

Because of the practice of fishing only certain areas where the fish congregate during specific seasons, fishing is normally a seasonal occupation in West Africa. The rest of the year fishermen suffer a loss of income and the country a loss of food.

The African Queen, however, will follow the fish wherever they are to be found along the west coast of Africa, landing its finished products at the nearest convenient port along the coast where they can be sold locally or transshipped to other markets without any delay or wastage. The headquarters of the undertaking will be at Bathurst, Gambia.



## German Federal Republic

NEW ELECTROSTATIC SMOKER DEVELOPED: A factory in the German Federal Republic has recently developed a new electrostatic smoker which will process fish in twenty seconds instead of the usual 1 to 2 hours, a June 18 American consular dispatch from Hamburg announces.

The fish are carried on a conveyor belt through a smoke chamber located in a high tension field. Small nozzels conduct the smoke to the copper wire negative which has the effect of instantly charging the smoke particles. The particles thus charged penetrate the fish at high speed. The fish are located on metal plates which function as the opposite pole. After this process, the fish are exposed to infra-red radiation which completes the curing process.





## Greece

GREEK-NORWEGIAN TRADE AGREEMENT EXTENDED: Two protocols were signed on May 19, 1951, at Athens to renew the Greek and Norwegian trade and payments agreement concluded in February 1950. While the 1950 agreement expired by limitation on December 31, 1951, it was prolonged pending negotiations for its renewal. The renewed agreement was made retroactive to January 1, 1951, and will remain in force until December 31, 1951, a July 11 dispatch from the American Embassy at Athens reports.

The only modifications in the renewed agreement were the application of the EPU agreement which obviates the necessity of a credit margin and simplified the accounting procedure of the clearing arrangement.

The 1950 Greek exports to Norway totaled 4,166,735 kroner (about US\$583,000) with sponges accounting for only 39,033 kroner of the total. Norway's 1950 exports to Greece totaled 24,540,046 kroner (about US\$2,850,000) and included such fishery items as cod-liver oil medicinal preparations (10,506,051 kroner), preserved fish and fishery products (2,500,000 kroner), and fish oils and fats (1,668,661 kroner). The net deficit in this year's trade relations, as in 1950, will again be met by EPU credits.



## Greenland

FISHERIES DEVELOPMENT IN 1950: Denmark's Greenland Administration and Det Grønlandske Fiskeri-Kompagni report that during 1950 experiments were conducted with fillet freezing in Sukkertoppen, and a shrimp processing plant was operated at Christianshaab for the production of frozen, non-boiled headless shrimp, and boiled and peeled shrimp. Almost all of these frozen products were exported with the greatest share going to the United States, the April 12 Danish publication Konserver reports.

A proposal in the 1950 report of the Greenland Commission would permit Danish citizens and companies, under Government control, to enter Greenland's fishing industry. The Government as a shareholder in the Det Grønlandske Fiskeri-Kompagni has plans to expand the company's facilities by building fillet and freezing plants (including quick-freezing installations) in the colonies of Godthaab, Sukkertoppen, and Egedesminde. Christianshaab's shrimp-processing plant is to be expanded to include shrimp canning. A fish-meal factory is to be constructed at Tovkussak as an addition to the present salt-fish processing facilities at that station.

The Greenland Administration is building a large shrimp cannery in Narssak, South Greenland, which will produce canned shrimp and quick-frozen cod fillets.

As a result of the successful 1950 operations, the Greenland Administration and Det Grønlandske Fiskeri-Kompagni are now planning to increase their production for export, concentrating on the American market.

NOTE: ALSO SEE COMMERCIAL FISHERIES REVIEW, AUGUST 1950, PP. 44-6.

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NEW FISHING, TRAPPING, AND HUNTING REGULATIONS: The Danish Government passed Decree No. 246 on June 7, 1951, concerning "Trapping, Fishing, and Hunting in Greenland Waters, and Exportation from Greenland," the American Embassy reports in its



July 16 dispatch from Copenhagen. The new regulations are issued in pursuance of the authority of the Prime Minister under Act No. 277 of May 27, 1950, relating to the "Conduct of Trade in Greenland," which came into force on April 15, 1951.

Act No. 277 applies to the entire territory of Greenland, including its maritime territory. The Decree applies to Greenland's inner waters which include harbors, harbor entrances, roadstead, bays (including Disko Bay), and the waters between and within the islands, islets, rocks, and reefs (Stenrøser) which are not permanently inundated by the sea. The maritime territory covered by the Decree pertains to those waters within a line drawn outside of the islands, islets, rocks, and reefs (Stenrøser) at a distance of three nautical miles from the outermost boundary of the dry land at lowest ebb. In the bays and fjords the three nautical miles shall be measured from a straight line drawn across the bay or fjord at the places nearest to the entrance where the width does not exceed 10 nautical miles.

The Decree grants that the exclusive rights of Danish nationals, residents of Greenland and those licensed by the Prime Minister, are extended to apply also to the use of Danish vessels. Restrictions on foreign flag vessels are eased somewhat by permitting them to make arrangements ashore for the provisional storage of catches taken outside the waters of Greenland.

A provision of the Decree regarding the hiring of natives of Greenland as a condition for licensing is new and undoubtedly has been adopted by a desire to encourage the native population to become more sea conscious and better experienced in ocean fishing.

The Decree gives to the Prime Minister all-inclusive authority for establishing without specification additional conditions for licensing trade. While such a wide authority might have the effect of arbitrarily limiting a greater freedom for trade in Greenland, there has been no indication up to the present time of any such use thereof.

Regulations for exportation from Greenland adhere primarily to the provisions of Act No. 277. However, with regard to export licensing they are not explicit and continue to follow characteristic modern Greenland legislation of leaving it up to the administrative province of the Prime Minister for establishing detailed conditions.

Under Section 11 of the Decree, certain goods shall be sold directly, or through a licensed export enterprise, to the Central Greenland Sales Organization (provisionally the Royal Greenland Commerce). These goods are listed in Annex I to the Decree and include most fish, shellfish, seal, and whale products.



## Iceland

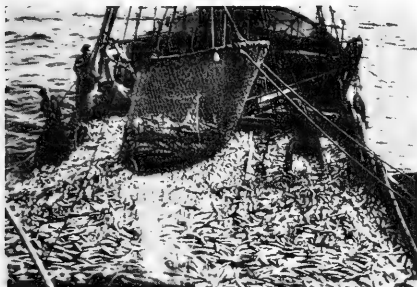
SUMMER HERRING FISHERY PROSPECTS: After a very unsatisfactory 1950 summer herring season in which only 32,000 metric tons were landed, southwestern Icelandic fishermen this year are reluctant to commit themselves to participation in the North Coast herring fishery. The last six seasons have been very poor. While initial preparations have been made to get purse nets and boats in shape, many of the fishermen have apparently decided not to leave their home ports until they receive definite word that the herring are running in that area. It is already certain that the number of vessels, both domestic and foreign, which will participate



in the North Coast herring fishery will be lower than in any recent previous year, according to a June 27 dispatch from the American Embassy at Reykjavik.

The Swedish fleet operating in this area during the 1950 summer season was composed of 52 vessels, but early reports indicate that only about one-half of this number will be present this summer. Norwegian fishing vessels, which totaled 211 in 1950, are expected to be less than 200. A few Russian boats have been sighted fishing 50-70 miles off the North Coast, but it is impossible to ascertain the number of boats or the production of these vessels.

Official Government prices have already been set for herring to be delivered to Government-owned factories<sup>1/</sup> on the North Coast for processing into oil and meal. If the average annual catch per boat is below 6,000 "mal" (810 metric tons), the Government factories will pay the fishermen I.kr.110.16 per "mal" (US\$6.76 per 300-lb. barrel). If the average catch per boat is over 6,000 "mal," the fixed



ICELANDIC FISHING VESSEL BRAILING HERRING.

price to the fishermen will be I.kr.102.00 per "mal," (US\$6.26 per 300-lb. barrel). The figure of 6,000 "mal" includes herring delivered for salting, freezing, and canning as well as for reduction. It has been decided that the lower price will be sufficient to provide a reasonable profit to fishermen if the catch is favorable. In that event, the difference of I.kr.8.16 per "mal" (US\$0.50 per 300-lb. barrel) would be paid by the factories to the Herring Catch Division of the Catch Guarantee Fund established by the Government to assist the domestic small-boat fishing fleet. This sum would correspond to a tax

of 8 percent on the value of the raw herring delivered by the boats if the average catch of the boats participating in the summer herring fisheries is over 6,000 "mal."

Fishermen will be given the option of delivering their catch to the Government factories at the official prices quoted above, in which case they are relieved of risks involved in market fluctuations, or of delivering their herring to the factories for a price to be determined by the actual market price of the herring oil and meal ultimately produced. In the latter case, they would receive as an initial payment 85 percent of the official price of I.kr.102.00 per "mal" (US\$6.76 per 300-lb. barrel), or I.kr.86.70 (US\$5.32 per 300-lb. barrel), upon delivering the fish to the factories, and the balance when the factories' accounts are closed. Those fishermen would share the risks involved in market fluctuations, and stand to receive either more or less than fishermen delivering at fixed prices, depending on market conditions. It is expected that most fishermen will prefer to accept the fixed prices, which are considered rather favorable.

The official prices set by the Government factories are based on anticipated deliveries of 400,000 "mal" (54,000 metric tons) for processing during the summer, which is close to the average received by them during the past 10 years. In 1950, the pre-season estimate of the quantity to be delivered to the Government factories was 500,000 "mal," which was more than 4 times as high as the amount actually received. The average catch per fishing boat participating in the summer herring fishery in the past 6 years, all of which were failures, was 2,446 "mal" (300 metric tons) annually.

<sup>1/</sup>THE GOVERNMENT-OWNED FACTORIES ARE COLLECTIVELY KNOWN AS THE STATE HERRING FACTORIES. IN 1950, THE STATE HERRING FACTORIES PROCESSED ABOUT TWO-THIRDS OF THE HERRING REDUCED ON THE NORTH COAST, AND THE REMAINDER WAS PROCESSED BY PRIVATELY-OWNED FACTORIES. THE PRIVATELY-OWNED FACTORIES FOLLOW THE PRICES PAID BY THE GOVERNMENT FACTORIES.



The average annual catch per boat in 1944, the last good year, was 12,030 "mal" (1,624 tons).

The price of I.kr.110.16 per "mal" for herring delivered by fishermen for reduction is about 27 percent higher than the price paid in 1950, and 55 percent higher than the price paid in 1949. The great increase over last year results from the increase in world prices for herring oil. The price for much of the herring oil produced in 1950 was £80 (US\$224) per metric ton, about 70 percent of the current year's production has already been sold in advance at L139;5:0 (US\$390) per metric ton, f.o.b. As in recent years, most of the present year's production will go to the United Kingdom. None of the current year's expected production of herring meal has been sold in advance, in view of unfavorable world prices. Prices being offered for Icelandic herring meal at the present time are approximately 25 percent lower than those offered at the same time last year.

The price to be paid to fishermen for fresh herring delivered for salting has not been established. The 1950 price was I.kr.122.00 (US\$7.49) per barrel of 300 pounds of fresh whole herring. The State herring Board, which handles all exports of salted herring, reports that it has already sold 200,000 barrels of herring from the coming summer fishery. Of this total, 110,000 barrels have been sold to Sweden. Smaller quantities are included in bilateral trade agreements with Denmark, Finland, and Poland. The State Herring Board reports that it expects to sell some herring to the United States, but that no agreement has yet been reached. Actual deliveries under "future" sales will depend, of course, on the outcome of the fishery. Only 55,600 barrels of salted herring were produced in the disappointing summer of 1950.

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TRADE AGREEMENT SIGNED WITH BRAZIL: A trade agreement under which Iceland will export codfish to Brazil in exchange for coffee was signed in Rio de Janeiro on May 5, 1951, states a dispatch of June 11 from the U. S. Ministry in Reykjavik. The agreement, which is in the form of letters exchanged by representatives of the two countries, will have a duration of 1 year. Under its terms codfish up to a maximum limit of £300,000 (US\$840,000) will be exported by Iceland to Brazil, and coffee up to a like value will be exported by Brazil in return. It is understood, although not so stated in the agreement, that the codfish will be salted and cured.

Trade between Iceland and Brazil is to be conducted by traditional exporters and importers in each country, at prices not higher than those in world markets.



## Israel

DEVELOPMENT OF FISHERIES, 1950: Requirements: Israel's Ministry of Agriculture estimates the annual requirements of fish at 50.6 pounds per capita. Fish occupies an important place in Israel's "austerity" diet as a substitute for meat. Since the local catch in 1950 was only 7,000 metric tons and 17,000 metric tons were imported, the remaining 10 percent of the requirements must have been filled by stocks on hand at the close of 1949 (assuming that an estimated 27,600 metric tons of fish are needed to meet the requirements of 1.2 million people). The supply of fish, other than the unpopular frozen fillets, was irregular varying between surplus and shortages throughout 1950, according to a July 16 report from the American Embassy at Tel Aviv.



Production and Fisheries: Recent ventures at shallow water fishing and long-distance (North Sea) fishing<sup>1</sup> have not been thus far too successful, although much capital and effort have been invested in this undertaking. The results of a joint Belgian-Israeli enterprise, created in 1950 to promote North Sea fishing, have not been satisfactory, and this company now devotes more attention to importing than to actual fishing.

Israel's shallow-water fishing fleet of 15 vessels caught only 4.4 metric tons in 1950 (see table). In spite of intensive training of fishermen in modern methods of coastal fishing, results of this fishery were equally disappointing. The 1950 coastal or inshore fisheries catches were only 90 metric tons more than in 1949. With relatively primitive methods, coastal fishing by the Arabs during the British Mandate resulted in catches of 2,000 metric tons annually. Lake fishing catches of 600 metric tons in 1946 increased to 700 metric tons in 1950.

Pond fishing results have been more gratifying to Israeli producers. Some 3,190 acres of fish ponds yielded 2,400 metric tons in 1948; and during 1950, 4,000

metric tons were taken from 5,500 acres of ponds--a 72 percent increase in the acreage of fish ponds has produced 65 percent more during this two-year period.

Israeli Fisheries Production, 1949-50		
Type of Fishery	1950	1949
	Metric Tons	Metric Tons
Deep-sea fishing .....	1,091.9	646.3
Inshore fishing .....	344.1	252.4
Shallow-water fishing .....	444.1	-
Lake fishing .....	707.0	396.7
Long-distance fishing (North Sea)	486.5	-
Fish ponds .....	4,013.5	2,938.2
Total .....	7,087.1	4,233.6

The Israel Government in 1950 constructed a fishing harbor near

Caesarea to encourage trawling, but this harbor is used now principally by the communal fishing settlement of Sdot Yam.

For its fresh-water fish, Israel relies primarily on Lake Tiberias and on ponds developed by communal settlements (kibbutzim). Further expansion of pond fishing, however, is not encouraged by the Government because of high production costs and the lack of foreign exchange to buy feedstuffs.

Kosher Restrictions on Fish: Much of the marine life in Mediterranean and Gulf-of-Aqaba waters are unsuitable for consumption in Israel due to Jewish dietary laws (Kashrut). A fish, in order to be kosher, must have both fins and scales. One of these characteristics alone is not sufficient. Catfish, eel, and shark are consequently forbidden. Lobsters, shrimp, and other crustaceans, as well as clams and oysters, are proscribed under other dietary laws.

Fisheries Outlook: The current crisis in the production of other protein food products puts increasing demands on the supply of fish. On the basis of the existing annual requirements of 50.6 pounds per capita, Israel will need over 36,000 metric tons of fish in 1952 for an estimated population of 1.6 million. Thus, it appears that Israeli's 1951 import requirements will be over 25,000 metric tons of fish and close to 28,000 metric tons in 1952.

Fishing ventures undertaken within the past three years indicate that Israel is unable to produce more than 25 percent of her requirements. The further expansion of pond fishing is apparently limited by the lack of foreign exchange to be used to buy feed. To appreciate a greater exploitation of the coastal waters, the Government

<sup>1</sup>SEE COMMERCIAL FISHERIES REVIEW, JULY 1951, P. 40; NOVEMBER 1950, P. 61.



Fishing Fund has ordered ten 50-ton, Diesel-powered fishing vessels from the United Kingdom for which £80,000 (US\$224,000) have been allocated by the Comptroller of Foreign Exchange. Government assistance has been promised to men now undergoing training to establish themselves in trade. Fishery training is one of the principal subjects of an academic institution located near Kfar Vitkin.

NOTE: FOR OTHER INFORMATION ON ISRAELI FISHERIES SEE COMMERCIAL FISHERIES REVIEW, APRIL 1951, PP. 66-69; JULY 1951, P. 40.



## Japan

AVAILABILITY OF FISHING CRAFT FOR KOREAN FISHING INDUSTRY: Approximately 64 Japanese fishing craft are available for the fishing industry in Korea, according to information furnished the Korean Economic Aid agency of the Far East Command by SCAP's Natural Resources Section, the latter agency's June 2 Weekly Summary states. Consisting mostly of trawlers, these boats are being offered for sale, although admittedly many of these boats are old and not in first-class condition. These craft are surplus to Japanese needs mainly as a result of reduction of the East China Sea fleet which took place by action of the Japanese Government in its effort to reduce overfishing in the important trawl areas of the East China Sea within the SCAP-authorized fishing area.

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FISHING GROUNDS PLANNING NEARS COMPLETION: The "Fishing Grounds Planning" phase of the Fisheries Rights Reform in Japan is nearing completion, asserts the June 23 Weekly Summary of SCAP's Natural Resources Section. This planning for the maximum utilization of the coastal waters is an important part of the over-all reform program. It is designed to promote the maximum sustained production of aquatic products and to encourage the widest possible distribution of ownership of Japan's limited resources. Such large-scale planning of water area use is a new development in the field of fisheries. Future food production in the coastal waters can be increased through the employment of planned utilization of the waters. This concept of fisheries management will become increasingly important as the world's population increases and places additional pressure upon the sea as a source of food.

For centuries limited land resources have forced the Japanese to rely on the sea for a substantial portion of their food requirements. As the population has increased, more and more people have turned to the sea for additional sources of food and employment. At present, approximately 85 percent of the animal protein consumed in Japan is of aquatic origin. Currently, more than 1½ million persons are engaged directly in fisheries, and about one-tenth of the total population depend on fisheries for their livelihood. Japan's total aquatic production of 3,654,812 metric tons in 1950 far surpassed that of any other nation. The coastal waters account for the bulk of this production, and 90 percent of it is produced within sight of the shore. An even greater proportion of the people employed in fisheries work within sight of the coast. Japan's coastal waters are undoubtedly the most intensively fished waters in the world. Practically all of the close inshore areas are utilized for some type of aquatic production.

The Fisheries Law enacted November 29, 1949, embodied a fisheries rights reform designed to eliminate abuses which had developed in the rights system and yet retained the desirable features of property rights in fisheries management.



The cancellation of the old rights and the establishment of new rights and licenses has provided an opportunity for the Japanese Government and fishermen to plan systematically the future use of the coastal fishing grounds. This planning of water area use and development of management plans has been established as a definite phase of the Fisheries Rights Reform program and has been designated "Fishing Grounds Planning." The planning is being done by the Sea Area Commissions. After the plans are fully developed for the Sea Area they are presented to the respective prefectural governor for approval. If approved by the governor the plan becomes official, and the rights and licenses issued in the future must conform to the plan.

This is the first attempt at large-scale organized planning for the utilization of a nation's coastal waters. "Fishing Ground Planning" is to fisheries what Land Use Planning is to agriculture. The ultimate aim of the planning is to obtain the maximum sustained benefits from the available water areas. Two major factors are involved in the accomplishment of this objective; the employment of the most efficient fisheries from a practical standpoint in the particular water area, and the operation of these fisheries at the optimum fishing intensity the water will sustain on a permanent basis.

In determining the most efficient fisheries for a specific water area, consideration must be given social and economic factors as well as the physical and biological characteristics of the area. This is especially true in Japan where the coastal waters supply a substantial amount of badly needed food, employment, and foreign exchange. Japan must have foreign exchange as well as food to exist; therefore, although sea cucumbers may be the most prolific marine life in an area, pearl oyster culture may be the more efficient use of the water. But, in such an area, if the local residents are not familiar with pearl oyster culture or sea cucumber production, but are experienced in seaweed culture, the latter may well be the most efficient use of the water.

Some fisheries such as fixed nets can be operated only in certain locations. The physical characteristics of the shore line and bottom and the normal routes of migrating fish limit the areas where these fisheries can be operated. Under the old system of fisheries rights many such locations were monopolized by other types of fisheries that did not require these exact locations. Consequently, many fixed nets were placed in undesirable locations, and considerable loss of gear through storm and tide damage was experienced. Other factors influencing the selection of fisheries for efficient utilization of water areas include transportation, shore handling facilities, experience of resident fishermen, number of fishermen in the Sea Area, type and amount of fishing gear available, and the financing available to local fishermen.

To achieve maximum sustained yield from water areas on a longtime basis each of the fisheries conducted must be operated at the optimum fishing intensity. Excessive fishing intensity will give maximum yield for a short time but will deplete the parent stock, thus reducing future yields or even destroying the fisheries. This has happened to several of the coastal fisheries in Japan under the old rights system. On the other hand, if a fishery is operated at less than optimum intensity, maximum production cannot be achieved and the production potential of other fisheries may be reduced. In this respect fisheries conservation differs somewhat from the conservation of most natural resources. Accurate determination of optimum fishing intensity requires a great deal of scientific research and accurate statistical data. Neither of these have been maintained in Japan. In establishing the fishing intensity for any given fishery, the commissions must for the most part rely on the past experience and observations of the Commission members and other fisher-



men, supplemented by the advice of central and prefectural government technicians. This technical advice is proving to be of limited value owing to the lack of background and accurate data.

The fishing intensity can be regulated by limiting the total catch, limiting the length of season, restricting the area of operations, restricting the type and size of gear, limiting the number of operating units, or a combination of these methods. Owing to the characteristics of Japan's coastal fisheries, the only method so far used in Japan with any degree of success is the limiting of the number of units. The practice of using everything taken regardless of species, the use of more than 3,000 coastal fishing ports as landing places, the lack of an effective system for the immediate reporting and compiling of catch data, and the almost total absence of an enforcement agency make any other system extremely difficult to operate. The future regulation of the intensity will continue to be built around unit limitations; however, some season, area, and gear restrictions will be employed as supplemental means of regulation for many fisheries. A few specialized fisheries, such as the pike mackerel, which are landed at relatively few places will be regulated by total catch regulations in the future.

The second objective of the Fishing Grounds Planning is to promote the widest possible distribution of fishing rights ownership. Establishment of rights which are compatible with individual ownership is the major means of achieving this objective. The larger rights such as large fixed nets, and community-operated fisheries such as beach seines are being arranged to encourage cooperative ownership where individual ownership is not feasible.

When completed the Fishing Grounds Plan will define the types and kinds of fisheries to be conducted in each Sea Area, the seasons when the various fisheries are to be operated, the number and location of rights, the conditions of the rights, such as the size of net and species included in the right, the number of licenses to be issued for each licensed fishery, the free fisheries permitted in the area, and any other stipulation considered necessary for the proper over-all management of the fisheries within the Sea Area. The Plan will include only coastal waters and will not affect deep-sea fisheries.

The success of the planning will depend to a large degree upon how well the planners can integrate the multitude of fisheries in each Sea Area into an over-all program. The same water area is used for numerous fisheries in nearly all of Japan's coastal waters. Sea cucumbers frequently are collected from the same area used to grow oysters, while the water over the oyster beds may also be utilized for hook-and-line fisheries, and dip-net fisheries conducted for several species of fish. Seaweed beds are frequently spawning grounds, and the operation of the beds must mesh properly with the spawning seasons or future production will be seriously affected. This problem is extremely complex but must be solved if production is to be maximized. Under the old system disputes were continually occurring and handicapped production.

The sea area boundaries were designated in May 1950 by the Minister of Agriculture and Forestry. This designation was made according to the recommendations of central and prefectural government technicians and divides the coast line of Japan into 79 Sea Areas. In August of 1950 the commission elections were held, and the commissions started preliminary work on the fishing grounds planning in September of 1950. The fishermen in each fishing community were asked to submit proposed plans for the waters adjacent to their respective communities. This request was made through the fisheries cooperatives in the villages. The plans were drawn up



by the cooperatives and submitted to the Adjustment Commissions. While these plans were being compiled the commissioners visited the communities in the sea area and obtained all available information on the productive capacity of the waters. Government technicians were consulted concerning any data that they could supply on the fisheries in the area. Such information included charts, chemical properties of the water, past production records, and similar material.

After reviewing the plans proposed for each locality the commissions began the task of dovetailing the various plans into one over-all plan for each sea area. Next the commissions held a series of public hearings in centrally located places throughout the sea areas to give fishermen a chance to voice their opinion concerning the over-all plan for that area. In many instances two or more commissions had to meet as a unit to plan for fisheries extending over the boundaries of two or more areas. Many of the commissions have maintained a roster of all resident fishermen, checking the names off as each fisherman voiced his opinion on the proposed plan. When the final plan was completed the commissions presented it to the respective prefectural governments for approval. After the prefectural government technicians reviewed the plans, they were approved by the governor if acceptable. Those not considered sound were returned to the commissions with recommended changes and after consideration by the commissions were resubmitted to the prefectural government for approval. Upon approval by the governor plans are published in order that all fishermen may know what rights are to be available in the future.

The Fisheries Law of 1949 stipulated that the reform measures of the Law must be put into effect by March 15, 1951. The original schedule drawn up by the Ministry of Agriculture and Forestry for implementing the reform established January 1, 1951, as the completion date of the Fishing Grounds Planning. The work involved in this planning was of such magnitude that compliance with this schedule proved impossible. The license fisheries proved to be the most difficult part of the planning program. The schedule of implementation was revised in January 1951 and established March 15, 1952, as the completion date for the license fisheries planning, and instructions were given the commissions to complete the rights fisheries plan as soon as possible. The planning of the rights fisheries is now expected to be completed in July 1951. Three prefectures announced the completion of plans for their rights fisheries before April 30, 1951, and additional prefectures are publishing their completed plans each week.

The results of the work done to date indicate that the planning program will bring about significant changes in Japan's coastal fisheries. In general, the commissions show a marked tendency to reduce the fishing intensity. In a considerable number of sea areas the number of fixed nets established under the old system has been reduced by at least one-third in the new plan; this has permitted the establishment of additional smaller nets near the shore and at the same time is opening the way for establishment of additional trawling grounds in the bay. The new plans also show a tendency to consider larger areas as common fishing grounds, thus permitting fishermen of several villages to operate common fisheries anywhere in the water areas adjacent to any of the villages. The old system restricted the area of operations to the waters adjacent to the fisherman's own village.

Numerous problems have arisen in the development of the fishing grounds plans. The commissions report that a great many fishermen are deeply concerned over how they can justify to their ancestors the changes being made. This resistance to change has been strong enough in some areas to cause modifications of the plans. Sectionalism has complicated the planning to some extent. Some commissioners have refused to consider the welfare of the entire sea area and have insisted on furthering the interest of their own community at the expense of other communities. How-



ever, these instances have been fewer than might have been expected and have not had an appreciable effect on the program. Of course, the major problem in the planning is the one basic to all of Japan's economy--more fishermen than the resources can support. The planning in itself cannot remedy this situation.

While large-scale planned utilization of water areas is new and still in the experimental stage, it shows promise of increasing food production in coastal waters. The commissions have already shown that fishermen are more aware of their problems and more capable of meeting them than was formerly believed. Much of the future success of the planning will depend on how well the government can enforce the program and regulations now being established by the commissions.

NOTE: ALSO SEE COMMERCIAL FISHERIES REVIEW, APRIL 1950, PP. 71-2; MAY 1951, PP. 52-3.

JAPANESE GOVERNMENT



Mexico

FORMATION OF AN INTERNATIONAL SHRIMP ASSOCIATION: An announcement that an agreement has been reached between the Mexican National Chamber of the Fishery Industry and the Texas Shrimp Dealers Association for formation of a Shrimp Association of the Americas appeared in the July 27 issue of Excelsior, a Mexican newspaper. According to the article, the Texas delegation agreed at a three-day meeting in Mexico City to stop pressing for quotas or import duties on Mexican shrimp, a July 27 American consular dispatch from Mexico City reports.

The major purpose of the International Shrimp Association is to advertise in order to increase the shrimp market in the United States and to improve the quality of the product.

The article states: "A recent meeting held in Mexico City in which industry members of both the American and Mexican shrimp industry participated may in all probability lay the foundation for the creation of a Joint Shrimp Industry Commission of the Americas.

"Due to what the American industry had considered as an alarming increase in imports of shrimp from Mexico and other countries, there has been recent agitation by the American Industry in the Congress of the United States for either a tariff or a quota as a protective measure for the industry. Conferences held between the Mexican-American producers developed the thought that if the American market could be sufficiently expanded through a joint advertising campaign, financed by both segments of the industry, the need for a restrictive tariff or quota would not be necessary. A series of meetings started in Boston, Massachusetts, in May and recently concluded in Mexico City give hope that the industry, as represented on both sides of the border, can and will work out their own problems without need of Government aid..."

At the conclusion of the three-day meeting all parties concerned were in accord that an International Joint Association should be formed to handle advertising, quality-control programs, and such other programs as might be beneficial to the shrimp industry and to the consumer. It was agreed by the North American Delegation and stated by the President of the Texas Shrimp Dealers Association "that no pro-tariff legislation would be attempted pending the necessary time to form and put into action the joint policies agreed on at the Mexico City meeting."

"These men, as representatives of the industry, firmly believe that they themselves can handle their own program of market expansion and exploitation to a point



where neither tariff nor quota need become necessary. The actions of these men will set a precedent for closer good relationships and harmony in the fisheries in which they are engaged since it is the first time that any joint action has ever been attempted," the article concluded.

\* \* \* \* \*

SHRIMP SEASON OPENING ON WEST COAST MAY BE ADVANCED BY ONE MONTH: An order which will advance approximately by one month the opening date of the shrimp season on Mexico's west coast was carried in the Diario Oficial of July 28. Previously, the outside waters (mostly in the Gulf of California) along the coasts of Nayarit, Sinaloa, Sonora, and the two Territories of Lower California were closed for the months of August and September, a July 31 American consular dispatch from Mexico City points out.

The present law now establishes a closed season for the month of August only, but provides that the Directorate General of Fisheries and Allied Industries should conduct studies and sampling procedures throughout August to determine whether the opening date should be the first of September or some time later during the month.

\* \* \* \* \*

WORK ON MAZATLAN FREEZERS GOES FORWARD: New and reconditioned freezing plants are expected to be ready for the opening of the shrimp fishing season on October 1, 1951, at Mazatlan, Mexico, a July 7 American consular report from that city states. One firm is now installing contact-type freezing units. Shrimp can be frozen with this system in three hours instead of 9 hours by the old system. Instead of freezing 12 tons of shrimp a day, 15 tons can be frozen under the new method. The plant will be ready for operation when the season begins.

The construction of a new freezing plant by another firm is under way. An investment of 1,500,000 pesos (US\$173,400) is being made on the project. The company is formed by 15 members, who own 24 boats which will be placed in operation upon completion of the plant. The plant will be able to freeze 15,000 pounds of shrimp and make 22 metric tons of ice daily. Storage capacity will be available for 60 tons of fresh shrimp. It is planned to be ready for operation by October 1, 1951. This plant is being constructed by boat owners as a protection to their interests, and to avoid being forced to sell their shrimp at the convenience of the freezing plants.

Another firm, also constructing a freezer which is about to be completed, is experimenting with methods used in the Mediterranean Sea for deep-sea shrimp fishing.

Total shrimp exports from Mazatlan for this season were estimated at 6,552,770 pounds as against 2,200,112 pounds exported last year.





## French Morocco

**French Morocco's Annual Production of Fishery Products by Species, 1950**

Species	Production Metric Tons
<b>Fish:</b>	
Anchovies .....	10
Bonito .....	240
Spanish mackerel ...	161
Skates .....	296
Pilchards .....	110,618
Tuna .....	1,978
Other .....	9,052
<b>Shellfish:</b>	
Lobsters .....	14
Spiny lobsters .....	20
Shrimp .....	752
Other .....	43
<b>Total .....</b>	<b>123,184</b>

**PRODUCTION OF FISHERY PRODUCTS, 1950:** Production of fishery products in the French Zone of Morocco during 1950 totaled 123,184 metric tons, valued at 400,512,081 francs (US\$1,144,320). Of this total, pilchard landings accounted for more than 110,000 metric tons (see table), while shellfish landings were less than .7 percent of the total.

The leading ports were Safi, Agadir, and Mogador, according to an article in the May 1951 issue of the French publication, La Pêche Maritime, La Pêche Fluviale, & La Pisciculture.

1/CONVERSION: 350 METROPOLITAN FRENCH FRANCS  
EQUAL US\$1.00.



## Morocco

**SARDINE CANNING SEASON TRENDS PESSIMISTIC:** Predictions regarding the French Morocco sardine canning season from Casablanca continue to be pessimistic, a June 29 report from the American Legation at Tangier states. The present cost of 41-43 francs (about 12 U.S. cents) for canned sardines has increased 24 percent within the past year. Most cannerys are selling at a loss in foreign markets in the hope of recouping their losses on sales made to France under a contingent system. In anticipation of marketing difficulties, local banks are said to be tightening the cannerys' credit. The cannerys hope, however, to obtain some relief through a government action to reduce prices on oil used in canning fish.

The Spanish Zone's important fish canning industry is also experiencing a difficult year. Spain's poor olive oil harvest in 1950 has not permitted the cannerys to obtain sufficient quantities of this oil to meet their needs. In addition to this uncertainty, a particularly poor tuna catch and the future supply and price of tinsplate contribute toward the cannerys' gloomy outlook.



## Norway

**HUGE SCHOOLS OF OCEAN PERCH REPORTED OFF NORTHERN NORWAY:** Huge schools of ocean perch (rosefish) were reported off northern Norway by trawlers from West Germany during the first week in June, according to the June 20 Fiskaren, a Norwegian fishery periodical. The ocean perch were said to be so thick that the trawlers operated almost as dredges. Many of the trawlers were headed for the Barents Sea, but went no further than the coast off Finnmark.

Trawlers were reported to have filled their holds (of 200- and 250-metric-ton capacity) with fine, fat ocean perch in only ten hours. All the trawlers used a bottom trawl.



German biologists ascribe the abundance of ocean perch to the meeting of a warm current with the much colder Arctic water. The fish, turned back by the latter, piled up by the millions, according to reports.

\* \* \* \* \*

SUPPLEMENTARY COMMODITY EXCHANGE AGREEMENT WITH YUGOSLAVIA: In an exchange of notes, Norway and Yugoslavia on June 8, 1951, at Oslo concluded a supplementary commodity exchange agreement and also extended the existing payments agreement between the two countries. Signature by each country on that date made the agreement effective, but its provisions were made retroactive to May 1, 1951, and will remain in effect until April 30, 1952, according to a July 12 report from the American Embassy at Oslo.

Norwegian Fishery Exports to Yugoslavia Under the 1951 Supplementary Commodity Exchange Agreement		
Product	Quantity	Value
	Metric Tons	U.S.\$
Salted or dried herring and fish .....	150	-
Medicinal cod-liver oil .....	200	-
Industrial fish and seal oil .....	600	-
Fatty acids, alcohols, and other sperm oil products .....	-	50,000
Fishing vessel engines .....	-	50,000
Fishing tackle .....	-	10,000

Yugoslavian exports to Norway will comprise mainly minerals, woods, and certain unfinished agricultural products, while several fishery items are included in Yugoslavia's imports of Norwegian products (see table).

Following the conditions of the August 30, 1946, trade and payments agreement, the provisions of the supplementary commodity exchange agreement will terminate on the same day as the payments agreement, which may be cancelled upon a three months' notice.



## Peru

NEW FISH MEAL BASE-COST PRICE ESTABLISHED FOR EXPORT-DUTY ASSESSMENT: In a supreme resolution of May 7, 1951, Peru established a new base-cost price for fish meal, a May 10 American consular report from Lima states. Formally, base-cost prices on fish meal were fixed by Supreme Resolution No. 635, August 19, 1948, as 155.00 soles (US\$10.34) per short ton for fish meal from fish residues, and 230.00 soles (US\$15.34) per short ton for fish meal from whole fish. The new base-cost price for fish meal is 813.00 soles (US\$53.66) per short ton (907 kilos and 184 grams), net weight.

The assessment of the export tax on fishery products prescribed by Peruvian Law No. 10545, April 16, 1946, asserts that a 10 percent export duty on fish and fishery products is to be assessed on the difference between the fixed base-cost prices at Peruvian ports and the declared f.o.b. export value. Exports of fish and fishery products are subject also to the payment of the additional 10 percent ad-valorem export tax, which is payable when the export quotation exceeds by 25 percent the base-cost price fixed for the assessment of export duties.

NOTE: VALUES CONVERTED ON THE BASIS OF 1 PERUVIAN SOL EQUALS 6.67 U.S. CENTS IN 1948, AND 6.60 U.S. CENTS IN 1951.



## Portugal

COMMERCIAL AGREEMENT BETWEEN AUSTRIA AND PORTUGAL: While no formal commercial agreement has been signed, Portuguese and Austrian negotiators have submitted lists of commodities to be exchanged by the two countries, a July 27 report from the American Embassy at Lisbon points out. Approval of the agreement by the Austrian Cabinet is still pending. The lists are separated into two categories: those commodities whose exchange the two countries wish to develop; and products for which each country wishes to be assured of an adequate source of supply.

Austria's exports to Portugal will consist mostly of finished products and minerals, while the Austrian imports of Portuguese products will include several fishery products--fish meal (US\$60,000), fish oil (150 metric tons), canned sardines (US\$150,000), and other canned fish products (US\$30,000).

\* \* \* \* \*

PORTUGUESE-ITALIAN TRADE AGREEMENT EXTENDED: The Portuguese-Italian commercial trade agreement, initialed in Rome on February 18, 1950, has been extended with certain modifications until February 18, 1952, according to a June 19 report from the American Embassy at Lisbon. The changing of Article 4 of the original agreement was the main modification.

Under the new terms of Article 4, the two Governments undertake to authorize the importation and exportation of those products regulated by the granting of import licenses to the limit of the quantities and values agreed upon. Portuguese imports of Italian commodities agreed upon under these terms are primarily finished and manufactured goods, while several of the Italian imports will include Portuguese fishery products (see table).

Italian Imports of Portuguese Fishery Products Under Revised Trade Agreement Extending Until February 18, 1952		
Product	Annual Quota	
	Metric Tons	U.S.\$
Agar agar .....	-	10,000
Fresh and frozen fish .....	500	-
Tuna in oil .....	2,000	-
Tuna-like fishes in oil .....	500	-
Sardines in oil .....	1,500	-
Filletts of mackerel in oil .....	500	-
Salted anchovies .....	500	-
Salted, pressed, & pickled pilchards .....	1,500	-
Fish meal .....	-	10,000

A secondary category of commodities for which the importing country wishes to be assured of an adequate source of supply and the exporting country will grant licenses up to the specific amounts, entails the importation and exportation by the respective governments up to the limit of quantities and values agreed upon. The only fishery item included in this category is an Italian import of US\$200,000 worth of fish and other marine-animal oil from Portugal.

Both Portugal and Italy will apply to the goods originating and proceeding from each country all the measures taken or to be taken in accordance with decisions of the OEEC.



## El Salvador

U. S. TO SUPPLY FISHERY SPECIALIST: Under a Point IV fisheries agreement, the United States will assign a technician to survey the fisheries and advise the El Salvadoran Government on developing its fishing industry. This agreement was accomplished in an exchange of notes on July 19 between the Foreign Office of that country and the American Embassy, according to a July 20 dispatch from San Salvador. The U. S. fishery specialist is L. S. Christey, of the U. S. Fish and Wildlife Service, who is planning to leave for El Salvador on August 17 for a period of a year. Mr. Christey has been deputy Program Director of the U. S. Defense Fisheries Administration since the establishment of that agency.



## Sweden

IMPORTS AND EXPORTS OF FISHERY PRODUCTS, 1949-50: Sweden during 1950 imported 28,200 metric tons of edible fishery products as compared with 24,300 tons in 1949 (table 1), according to a May 28 American consular dispatch from Gothenburg. The value of these imports rose from US\$5,400,000 in 1949 to US\$6,900,000 in 1950.

Table 1 - Swedish Imports of Fishery Products, 1949-50

Type	Quantity		Value	
	1950 (Thousands of Metric Tons)	1949 (Thousands of Metric Tons)	1950 (Millions of U.S.\$)	1949 (Millions of U.S.\$)
Fresh and frozen fish .....	7.1	6.5	1.6	1.6
Salted, spiced and sugar-salted herring .....	15.2	13.0	2.5	2.1
Other salted or dried smoked fish (except fresh dried) .....	0.7	0.5	0.1	0.1
Fresh dried fish .....	1.2	1.0	0.6	0.4
Fish roe .....	1.7	2.1	1/	0.3
Oysters, shellfish, mussels .....	0.8	0.4	1/	0.3
Canned fish, shellfish .....	1.5	0.8	1/	0.6
Total .....	28.2	24.3	6.9	5.4

1/SEPARATE INDIVIDUAL VALUES FOR THESE ITEMS NOT AVAILABLE.

Swedish exports of edible fishery products dropped from 68,200 metric tons in 1949 to 63,200 metric tons in 1950, and the value from US\$7,900,000 to US\$7,300,000, respectively, (table 2). Exports to the United States were valued at US\$600,000 in 1950, twice as much as the previous year (US\$300,000).

Table 2 - Swedish Exports of Fishery Products, 1949-50

Type	Quantity		Value	
	1950 (Thousands of Metric Tons)	1949 (Thousands of Metric Tons)	1950 (Millions of U.S.\$)	1949 (Millions of U.S.\$)
Fresh and frozen fish .....	52.1	50.1	4.6	4.5
Salted, spiced and sugar-salted herring .....	7.7	14.9	0.9	1.8
Other salted or dried smoked fish (except fresh dried) .....	-	0.3	-	0.1
Fish roe .....	0.7	0.7	0.3	0.4
Canned fish, shellfish .....	2.7	2.2	1.5	1.1
Total .....	63.2	68.2	7.3	7.9



## Thailand

**FISHING INDUSTRY SECOND ONLY TO AGRICULTURE:** Fishing is one of the main occupations of the more than 17 million Siamese people, particularly those dwelling in the 23 provinces bordering on the Gulf of Siam and the Indian Ocean. Second in importance only to agriculture, fisheries production is reported to be far in excess of the local needs, according to a July 10 dispatch from the American Embassy at Bangkok. This city's 750,000 inhabitants are unable to consume the large quantities of fish landed locally during the peak of the production season. Consequently, part of this production is salted and exported to such foreign markets as Hong Kong, Singapore, and Indonesia.

**Production:** Thailand's 1949 fisheries catch totaled 195,840 metric tons with the ocean supplying about 77 percent of the total production (see table). The trend

Species	1949 Metric Tons	1948 Metric Tons
<b>Salt-water:</b>		
Platoo ( <i>Rastrelliger</i> )	43,750	29,055
Sharks .....	2,630	1,850
Prawn & shrimp .....	8,750	8,801
Molluscs .....	67,050	58,400
Crabs .....	1,650	1,373
Others .....	27,550	20,694
<b>Fresh-water:</b>		
Air breathers .....	20,470	17,883
Crabs .....	3,850	2,656
Prawn .....	2,030	2,912
Others .....	18,110	17,400
<b>Total .....</b>	<b>195,840</b>	<b>161,024</b>

is toward an expansion of fishery production--the 1949 production being nearly 30,000 tons greater than the previous year. This was due to increased landings of all species (salt- and fresh-water fish and shellfish) except shrimp and prawn.

The Platoo (*Rastrelliger*) is the most important fish in Siamese trade and it is found in abundance in the Gulf of Siam. This species is taken off the West Coast from May to August, and during the fall off the east coast of the Malayan peninsula. The fish are taken in tangle nets and bamboo stake traps,

the most popular methods of fishing in Siam.

Herring species are reported to be plentiful off both coasts, but as yet there are no fish canning or reduction plants. Production of fresh-water fish and shellfish is less than 25 percent of the total production.

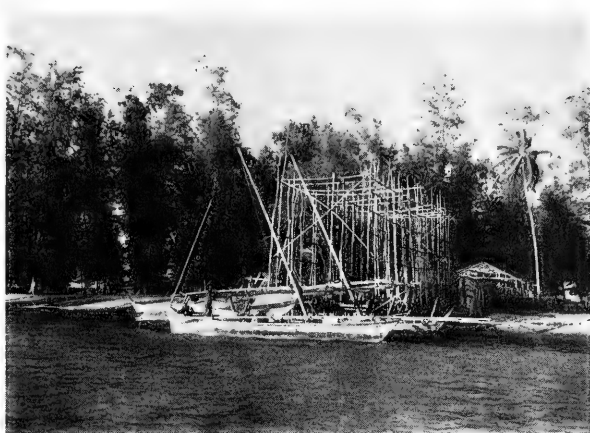
Shellfish account for approximately one half of the total salt-water production-- the leading species being molluscs, prawns, shrimps, and crabs.

**Marketing:** The catch is generally delivered to fish pier owners who act as fish commission agents or dealers in Thailand. Charges for watchmen, duty stamps, coolie services, and other expenses, plus a 10 percent commission for fresh fish and 8 percent commission for salted fish are deducted from the dealers' returns to the fishermen. Many of these dealers have adopted the practice of selling the fishermen fishing supplies on account and the cost of supplies is also deducted from the returns.





Fishery products are generally marketed fresh in Bangkok, although some of the production during peak periods can be stored in cold-storage plants for later marketing. Cold-storage lockers are also available for rental by the fishermen. At a new fish market now under construction, there will be sufficient space for a new cold storage plant with a capacity of 1,000 metric tons and an ice plant.



DRYING RACKS FOR FISHING NETS AT SINGORA, THAILAND.

Fresh salt-water fish are practically unknown in the upper inland regions of Thailand. Inadequate transportation facilities permit only the marketing of smoked and salted fish in these areas.

Vessels: Some of the vessels are equipped with 40-60 h.p. motors. These are 52-56 feet long, and from 25-30 gross metric tons. From 15,000-16,500 pounds of ice are carried by these boats for preserving 300-350 baskets of fresh fish in their fish holds.



## Turkey

NEW GOVERNMENT FISH AGENCY ESTABLISHED: The Turkish Government has set up a Directorate of Water Products and Fishing within the past year, according to a July 21 report from the American Consulate at Istanbul. The new central organization is confining its activities for the moment to a study of problems relating to the conservation of maritime resources. It is also studying the development of the fishing industry, including canning and exportation of sea products and the securing of foreign loans. Various fishery functions coming within the province of this agency are the operation of hydrobiological stations, sponsorship and establishment of co-operative organizations, and proposals regarding tax amendments and regulations relating to the fisheries.



## United Kingdom

CANADIAN CANNED SALMON PURCHASES: Negotiations for the purchase of about 6,000 tons of Canadian canned salmon from this year's catch have been concluded by the British Ministry of Food, the July 21 issue of The Fishing News, a British fishery periodical, announces.



This is a somewhat larger quantity than the Ministry bought from Canada last year. Although canning has already begun, the salmon will not be available for distribution in Great Britain until next year.

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**FISH AND MARINE ANIMAL OILS, 1950-51:** Production: Whale and sperm oils made up more than half of the United Kingdom's 1950-51 fats and oil production, according to an April report from the American Embassy at London. The principal domestic source of this oil continued to be the catch of the United Kingdom whaling ships in foreign waters. While there is only a slight change in the total production of all oils and fats (vegetable, animal, and marine), there have been significant changes in the output of the different oils (table 1).

Table 1 - United Kingdom's Fats and Oils Production <sup>1</sup> , 1950-51 with Comparative Data			
Type	1950-51	1949-50	Average 1934-38
	.. (in metric tons) ..		
Herring oil .....	3,000	2,000	2/
Sperm oil <sup>1</sup> .....	9,000	8,000	8,000 <sup>3</sup> /
Whale oil <sup>1</sup> .....	77,000	80,000	157,000 <sup>3</sup> /
Other fats & oils <sup>4</sup> .....	79,000	75,000	102,000
Total .....	168,000	165,000	267,000

<sup>1</sup>/INCLUDES CATCHES BY BRITISH-OWNED VESSELS AND LAND STATIONS FLYING BRITISH FLAG.  
<sup>2</sup>/100-200 TONS.  
<sup>3</sup>/1936-38 AVERAGE.  
<sup>4</sup>/INCLUDES BUTTER, LINSEED OIL, AND SLAUGHTER FATS AND LARD.

The total 1950-51 domestic production of all fats and oils was estimated at 168,000 tons. Of this total, fish and whale oils accounted for 89,000 tons, a 1 percent decrease from the 1949-50 whale and fish oil production.

Whale oil production on March 3, 1951, was reported to be around 3,000 metric tons less than the previous year. On the other hand, sperm oil as of the same date was almost 1,000 tons greater than the previous year. There was also an increase of over 1,000 tons in the production of herring oil. A reduced demand for the 1950 herring catch diverted more of this species of fish to oil and meal factories.

**Imports:** Actual imports (excluding production of United Kingdom whaling ships and land stations) of whale oil increased from almost 17,000 metric tons in 1949, to 46,000 tons in 1950 (table 2).

Table 2 - Imports of Fish and Marine Animal Oils by Source, 1950 with Comparative Data		
Type and Origin	1950	1949
<b>Whale oil, unrefined:</b>	(in metric tons)	
British whale fisheries <sup>1</sup> .....	110,281	106,181
Falkland Isles <sup>1</sup> .....	5,337	17,088
Foreign whale fisheries .....	45,800	15,028
Other foreign countries .....	300	1,565
Total unrefined .....	161,718	139,862
<b>Other fish and animal oils, (including fish-liver oils):</b>		
Union of South Africa .....	2,553	1,516
British whale fisheries <sup>1</sup> .....	3,283	11,968
Other British countries .....	2,888	689
Iceland .....	2,974	6,560
Other foreign countries .....	2,955	931
Total .....	14,653	21,664
Total fish and marine animal oils .....	176,371	161,526
Total animal, fish, and marine oils .....	235,301	219,228

<sup>1</sup>/NOT CONSIDERED AS AN IMPORT IN TABLE 1.



Exports: Animal and marine oil exports were 15,000 metric tons in 1950 as compared with the previous season's exports of 10,000 metric tons.

Prices: The British Ministry of Food contracted for the 1951 whale oil catch by British ships at £100 (US\$280) per long ton as compared with £80 (US\$224) for 1949. Imports of Norwegian oil have also been contracted for at these quotations, an increase of 25 percent over the previous year. The bulk of the whale oil supplies will be marketed at these prices since the contracts were established before some of the recent sharp price increases. Small supplies are now being sold at much higher prices. Contracts have recently been made as high as £170 (US\$476) per long ton for shipment to Belgium, Denmark, and Germany. Prices during 1949 on the open market did not exceed £100 (US\$280). Sperm oil prices are now about £110 (US\$308) per long ton ex-ship, almost double the sperm oil prices of £50-68 (US\$140.00-190.40) in 1949-50.

\* \* \* \* \*

SEA FISH INDUSTRY BILL ENACTED INTO LAW: The Sea Fish Industry Bill was enacted into law on May 10 this year, states a June 8 American Embassy report from London. Known as the "Sea Fish Industry Act, 1951," this new law sets up and gives statutory powers to a White Fish Authority to reorganize, develop, and regulate the white fish industry in Great Britain.

The powers which the law proposes to give the Authority include among others the right to carry on research and experiments, to encourage cooperation in the industry, to promote exports, to provide processing plants, and to give assistance for the provision of fishing vessels or processing plants. This assistance may take the form of purchase of shares. The Authority may make regulations dealing with the handling of white fish, subject to ministerial confirmation and annulment by Parliament. Provision is also made for conferring additional powers on the Authority by means of statutory schemes.

In addition, the Authority is enabled to license fishing vessels engaged in catching white fish. Licenses granted may be revoked only by the Court, and the Authority will not be able to refuse a license unless the applicant has already proved himself unsuitable.

Although time must be given to the Authority to investigate and acquaint itself not only with the technical aspects of the industry but with those people actually engaged in the industry, it is the belief of many that in due course there will be a gradual and real improvement both in the status of fishermen and the industry as a whole.

The introduction of the Act states: "...to make provision for the reorganization, development, and regulation of the white fish industry; to amend the law relating to fishery harbors, the catching and landing of sea fish and other matters affecting or connected with the sea fishing and whaling industry; to abolish the Scottish Fisheries Advisory Council; and for purposes connected therewith."

According to this act, "whitefish" means fish (whether fresh or preserved) of any kind found in the sea, except (a) herring; (b) any of the salmon species; or (c) any species of trout which migrate to and from the sea.





## Union of South Africa

NEW WHALING COMPANY ESTABLISHED: A new whaling company has been established in Johannesburg with an authorized capital of £1,000,000 (US\$2,231,570), to build and operate a whaling station at Salamander Bay, on the south shore of Saldanha Bay. The factory plant, unobtainable in South Africa, will be purchased in the United States, according to the June 1951 Fisheries Newsletter of the Australian Director of Fisheries. The new company is partly financed by British and United States interests. American plant and equipment suppliers will take shares in the new company in payment.

Gunners and other key personnel for the company will be provided by the Antarctic pelagic whaling fleet, whose off-season coincides with the six months shore whaling season in South Africa.

This new company will make the third South African whaling company now operating in that country. One of the two others operates a pelagic Antarctic expedition and two shore stations at Durban, and the second company operates a shore station at Saldanha Bay.



## Zanzibar

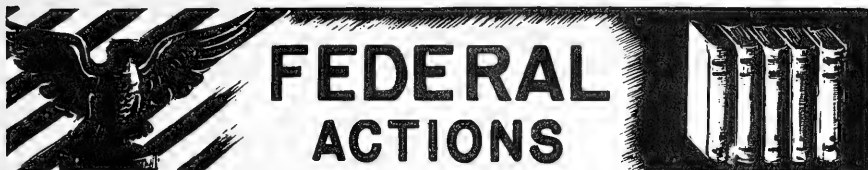
FISHERIES RESEARCH ON THE EAST AFRICAN COAST: The Inter-Territorial Marine Fisheries Research Organization of the East African High Commission has started operations with headquarters in Zanzibar, a June 15 American consular report from Mombasa, Kenya, points out.

A deep-water survey is to be conducted to discover the potentialities of the oceanic waters outside the range of local fishermen and to investigate oceanic problems of the East Coast of Africa. The project hopes to discover the quantity of any particular species that might be of commercial value not only for food but also for byproducts, such as air bladders used for making isinglass, glandular extracts, etc.

The Research, a 70-foot vessel, used on previous expeditions will be used in these operations. The vessel has just been refitted and now carries two 60-foot tangons for towing six fishing lines.







Department of Commerce  
NATIONAL PRODUCTION AUTHORITY

ALUMINUM FOIL USE BROADENED: The NPA aluminum foil order has been broadened to include all types except insulation foil. Order M-67, which regulates the use of aluminum foil and which originally covered only aluminum foil used in containers and packaging materials, was amended by the National Production Authority on July 27. This amendment brings in other uses, such as aluminum foil for household purposes, for florists, gift wrapping, and seal and label usages. These had been controlled by Order M-7, which was revoked July 1.

NPA said the amendment would help aluminum foil converters obtain controlled material through one NPA industry division because July 27's change puts all converted foil, except insulation foil, under jurisdiction of the NPA Containers and Packaging Division. Otherwise, a converter might have found it necessary to request a CMP allotment for part of his production from the Light Metals Division, part from the Consumer Durable Goods Division and part from the Containers and Packaging Division.

Converted aluminum foil is plain coil foil which is altered by the converter, for a specific use. This includes cutting it into sheets or packaging it for retail sales.

Other changes made by the amendment include:

1. ESTABLISHMENT OF QUARTERLY RATHER THAN MONTHLY QUOTAS. THIS PROVISION IS RETROACTIVE TO JULY 1 TO CONFORM WITH THE ESTABLISHED QUARTERLY PATTERN. THE PURPOSE IS TO GIVE THE CONVERTER MORE FLEXIBILITY IN HIS PRODUCTION OPERATION.
2. A REGROUPING OF ITEMS IN SCHEDULE 1 OF M-67. THIS SCHEDULE GIVES THE PERCENTAGE OF BASE PERIOD CONSUMPTION OF ALUMINUM FOIL WHICH MAY BE USED IN VARIOUS PRODUCTS. ITEMS 2, 3, 4 AND 5 OF THE ORIGINAL ORDER HAVE BEEN COMBINED IN A SINGLE GROUP TO ENABLE A USER TO SHIFT HIS USES WITHIN A GIVEN GROUP TO MEET INDIVIDUAL REQUIREMENTS. FISHERY PRODUCTS PACKAGING IS INCLUDED UNDER ITEM 2 AND THE PERMITTED RATE OF USE IS 90 PERCENT OF THE BASE PERIOD (6-MONTH PERIOD ENDING DECEMBER 31, 1950). SCHEDULE 1 AS IT APPEARS IN THE ORDER SHOWN ON PAGE 58.
3. ADDITION OF A NEW GROUP 5 WHICH COVERS THE USE PROGRAMS PREVIOUSLY UNDER CONTROL OF M-7. THEIR PERMITTED RATE OF USE, 50 PERCENT OF THE BASE PERIOD, REMAINS THE SAME.
4. ESTABLISHMENT OF AN INVENTORY LIMITATION OF A MINIMUM WORKING INVENTORY OF NOT MORE THAN 60 DAYS.



SCHEDULE I—ALUMINUM FOIL CONVERTED		
Item No.	Use or class of product (1)	Permitted percentage of average quarterly quantity by weight of aluminum foil used during the base period (2)
1	Antibiotics	Unlimited.
2	Hygroscopic drugs, medical supplies, photographic films, and photographic supplies, requiring protection from light or humidity; and food products for human consumption, as defined in memorandum of agreement between NPA Administrator and Administrator of Production and Marketing Administration, United States Department of Agriculture, 16 F. R. 3440, including uncooked bakery goods and including food products for human consumption to be stored in locker plants or home freezers, but excluding food products for human consumption listed in item No. 3 of this schedule.	90 percent.
3	Bakery goods (excluding uncooked goods), chewing gum, confections, ice cream, cigarettes, and tobacco.	65 percent.
4	Other uses of aluminum foil in containers or packaging material for protective purposes.	65 percent.
5	Household (except for home freezers), carton (except for purposes of protective packaging), florist, gift wrapping, seal, label, and other uses not included in items 1, 2, 3, or 4.	50 percent.

M-67 was issued June 1 to conserve aluminum for the defense mobilization program by limiting the use of aluminum foil in packaging.

At that time, NPA estimated that the action would conserve an estimated nine million pounds of aluminum foil in addition to savings already effected by Order M-7.

For details see: M-67 (Aluminum Foil, Converted), as amended July 27, 1951.

\* \* \* \* \*

CONSTRUCTION CONTROLS UNDER CMP: The National Production Authority on August 20 amended its basic construction order to bring it into conformity with the Controlled Materials Plan (CMP) regulations, under which construction will be controlled beginning with the fourth quarter of this year.

The amendment to Order M-4A makes "housekeeping" adjustments to bring M-4A into conformity with the provisions of CMP Regulation 6 and Direction 1 to CMP Reg. 6.

The Defense Fisheries Administration, Department of the Interior, is the claimant agency for the construction of facilities for the production and processing of fishery products.

For details see: M-4A (Construction) as amended Aug. 20, 1951.

\* \* \* \* \*

CONSUMER DURABLE GOODS ORDER MODIFIED: Consumer durable goods order M-47A (applies, among others, to commercial fishing tackle and gear) was modified by the National Production Authority on August 2 to permit greater flexibility in the use of iron and steel quotas and to simplify compliance with the order. The action makes no change in the total amount of iron or steel permitted users in the manufacture of commercial fishing tackle and gear as well as other commodities listed in the order as "consumer durable goods."

However, manufacturers will have more latitude in using iron and steel to produce consumer goods. Under the original order, manufacturers had to use their quarterly quotas for the production of the same items they produced during the base period. The effect was to "freeze" production on the pattern of the base period without regard for changing consumer needs or seasonal demands.



This action permits the manufacturer of two or more items to vary his production of the different items as he would under normal competitive conditions, so long as he does not exceed his permitted usage of iron and steel, computed separately for List A and List B products. (Commercial fishing tackle and gear are under List B.)

Another change in M-47A makes it possible for a manufacturer to benefit from any savings of materials in his manufacturing process. The saving, in weight of material, in internal manufacturing may be reflected in additional usage of purchased parts. Conversely, savings in purchased parts may be applied to increase the amount of metal available for use in his own plant.

The order also permits manufacturers to disregard, in computing both base period and actual usage, the weight of materials contained in purchased components or subassemblies for which a GMP allotment for the third quarter was issued.

This will permit some manufacturers to increase production without additional grants of material where the use of such parts or subassemblies containing copper or aluminum has limited output. Products in this class are durable goods equipped with electric or gasoline motors bought from another manufacturer.

For details see: M-47A (Use of Iron and Steel, Copper, and Aluminum in Certain Consumer Durable Goods and Related Products) as amended Aug. 2, 1951.



## Economic Stabilization Agency

### OFFICE OF PRICE STABILIZATION

CONTINUATION OF EXISTING REGULATIONS ANNOUNCED: A notice of continuation of existing regulations was issued by the Office of Price Stabilization on August 1, pursuant to the Defense Production Act of 1950, as amended by the Defense Production Act Amendments of 1951 (Pub. Law 96, 82nd Cong.), Executive Order 10161, and Economic Stabilization Agency General Order Nos. 2 and 5.

The Notice of Continuation of Existing Regulations issued read as follows:

"ALL REGULATIONS, RULES, ORDERS, REQUIREMENTS, AND AMENDMENTS THERETO, ISSUED BY THE OFFICE OF PRICE STABILIZATION, ON OR BEFORE JULY 31, 1951, ARE HEREBY CONFIRMED AND CONTINUED IN EFFECT ACCORDING TO THEIR TERMS.

\* \* \* \* \*

CANNED ALASKA RED SALMON CEILING PRICES RAISED: Higher canners' ceiling prices on Alaska Red Salmon to mitigate anticipated losses resulting from a very small pack during the current season were announced by OPS on August 30 (CFR 65, Amdt. 1).

The new ceilings, effective August 30, 1951, represent an increase of slightly more than 10 percent over prices for canned Alaska red salmon fixed in Ceiling Price Regulation 65, issued July 30, 1951, and effective on August 8. These ceilings were fixed before the extent of the western Alaska shortage was known.



The new ceilings on Alaska reds, set forth in Amendment 1 to CPR 65, as compared with the previous ceilings, are as follows:

F.o.b. Car, Seattle, Bellingham, Everett or Astoria		
	CPR 65, Amdt. 1	CPR 65
	... (48 cans per case) ...	
1 pound tall can .....	\$32.00	\$29.00
1 pound flat can .....	33.00	30.00
$\frac{1}{2}$ pound flat can .....	19.25	18.00

The increase in canners' ceilings on Alaska red salmon probably will be passed on by distributors to the public, but they apply to only about 15 percent of the total estimated salmon pack for the season in Alaska and the Pacific Northwest.

OFS said that it will soon issue an action that will contain pricing procedures to be used by primary distributors of the canned salmon covered in this amendment.

Also, a companion regulation in process will fix ceiling prices for Alaska red salmon sold by "primary distributors."

These distributors customarily buy from canners and sell to wholesalers and others. Their profit comes from the fact that they are able, as a rule, to purchase from canners at a discount because of unusually large orders.

The ceiling price for primary distributors will be the ceiling price of the supplier from whom they buy, plus transportation cost.

#### SALMON

##### CANNED ALASKA RED SALMON

Pursuant to the Defense Production Act of 1950, as amended, Executive Order 10161 (15 F. R. 6105), and Economic Stabilization General Order No. 2 (16 F. R. 738), this Amendment 1 to Ceiling Price Regulation 65 is hereby issued.

##### STATEMENT OF CONSIDERATIONS

This amendment makes an adjustment in the ceiling prices specified by CPR 65 for canned Alaska Red salmon, so as to reflect increased unit costs.

As was recognized in the Statement of Considerations to CPR 65, Canned Salmon, the highly seasonal nature of the salmon industry requires that ceiling prices be established for each year's pack as it comes to market. Consequently, that regulation established prices only for the 1951 pack and the small carry-over of the 1950 pack. It was stated expressly at that time, that should the 1951 pack actually be abnormally large or small, the ceiling prices contained in CPR 65 would be promptly revised to reflect more accurately the changes in unit costs.

Since issuance of CPR 65, the pack of salmon in western Alaska has been finished and while packing in certain other Alaska areas is still continuing, those areas produce, for the most part, varieties of salmon other than Reds. The pack of Alaska Reds up to August 11,

1951, is 766,336 cases as against last year's pack of 1,086,917 cases for a corresponding date in 1950. In the Bristol Bay area, which comprises a large part of the western Alaska salmon territory, the current pack of Alaska Red salmon is the smallest in fifty-four years.

Due to the nature of the operations of this industry in which a substantial part of the total operating and administrative expense represents fixed commitments, a short pack is bound to result in extreme cost increases. The Office of Price Stabilization, in close cooperation with the industry and with the Defense Fisheries Administration of the Department of the Interior, has sought to reflect as closely as possible the increase in unit costs occasioned by the shortage of the current pack of Alaska Reds, in formulating the price increases effected by this amendment. Moreover an average of all cost increases since June 1950 has been calculated as a yardstick in measuring the increase the industry will need to meet the problems created by this abnormally short pack. An evaluation of cost data available to the Office of Price Stabilization indicates that an increase of 20 percent over the highest prices in effect during June 1950 or, as an alternative, an increase of 8 percent over the average level established by the General Ceiling Price Regulation would appear to reflect most equitably up-to-date increases in unit costs of canning Alaska Red salmon, without unduly distorting the price relationships between

this species and others, and without exceeding unreasonably the general level of canned salmon prices otherwise established by CPR 65.

The result of this amendment will be to raise the specific ceiling prices established by CPR 65 for Alaska Red salmon only by slightly over 10 percent. Such an upward adjustment is necessary to relieve the industry, since various kinds of red salmon constitute a major item in the total production and because Alaska Reds represent the great bulk of red salmon canned. While, of necessity, this price action makes it likely that the increase allowed, manufacturers will be passed on to the consumer, it will at the same time encourage future availability and distribution of red salmon, a moderately priced high-protein food item, which might disappear from the market if rigid price ceilings were to force producers to sell this item at a loss.

A companion amendment to the General Ceiling Price Regulation protects primary distributors of canned salmon against losses resulting from a price squeeze which might otherwise be caused by this amendment. At the same time, great care has been taken to prevent speculation or improper pyramiding of markups.

In keeping with the standards set forth in the Statement of Considerations to CPR 65, the Office of Price Stabilization will reexamine, from time to time, the specific ceiling prices established therein,



in the light of unit costs and final salmon pack figures as they become available, to protect that industry against loss as a result of abnormal shortages, but also in order that savings which may result from comparatively larger packs for other species may be passed on to the consumer.

In formulating this amendment the Director of Price Stabilization has consulted with industry representatives to the extent practicable and has given full consideration to their recommendations. In his judgment the provisions of this amendment are generally fair and equitable and are necessary to effectuate the

purposes of Title IV of the Defense Production Act of 1950, as amended.

So far as practicable, the Director of Price Stabilization gave due consideration to the national effort to achieve maximum production in furtherance of the Defense Production Act of 1950, as amended: To prices prevailing during the period from May 24, 1950, to June 24, 1950, inclusive: And to relevant factors of general applicability.

#### AMENDATORY PROVISIONS

The table of prices set forth in section 4 (a) of Ceiling Price Regulation 65 is amended by substituting for the three

items listed under the heading of "Alaska Reds" the following:

Alaska Red .....	1 pound tall .....	\$32.00
Do. ....	1 pound flat .....	31.00
Do. ....	3/4 pound flat .....	19.25

(Sec. 704, 64 Stat. 816, as amended; 50 U. S. C. App. Sup. 2154)

Effective date: This amendment shall become effective August 30, 1951.

MICHAEL V. DiSALLE,

Director of Price Stabilization.

AUGUST 30, 1951.

\* \* \* \* \*

FISH SUBJECTED TO SMOKING FOR FLAVORING EXEMPT FROM PRICE CONTROL: Fish which has been subjected to a smoking process for the purpose of imparting a particular flavor rather than as a means of preservation, and which may require the same degree of refrigeration to prevent spoilage as does frozen green fish, is exempt from price control, according to a reliable source. The Office of Price Administration has issued this interpretation in reply to an individual request. Probably the only fishery product that would fall under this category is finnan haddie.

However, processors of other salted, smoked, pickled, and cured fish and shellfish will still operate under the General Ceiling Price Regulation as in the past.

\* \* \* \* \*

ADJUSTMENTS FOR WHOLESALERS' SALES TO INSTITUTIONAL USERS: Amendment 7 to CPR 14 permits institutional wholesalers who sell to institutional users, such as hotels, restaurants, and other feeding establishments in less than case lots or perform other special services to apply for adjustments in markups under the Wholesale Grocery Ceiling Price Regulation (CPR 14).

For details see: CPR 14, Amdt. 7 (Adjustment of Ceiling Prices for Certain Institutional Sellers) issued Aug. 30, 1951.

\* \* \* \* \*

ADJUSTMENTS FOR RETAILERS OF IMPORTED GOODS: Retailers are provided with a month's extension on filing, making the new deadline October 1, 1951, and a simplified pricing method by Amendment 7 to Ceiling Price Regulation 31, issued August 30, 1951. New imported commodities may be sold after a waiting period of 10 days even though QPS approval of pricing has not yet been received. A new hardship adjustment clause for importers with abnormally low markups is provided.

For details see: CPR 31, Amdt. 7 (Pricing for Retailers of Imported Goods: Pricing for New Goods and New Sellers; Adjustment Clause) issued Aug. 30, 1951.

\* \* \* \* \*

PRODUCER EXPORTERS PROVIDED WITH ALTERNATIVE DOMESTIC CEILING PRICE FOR EXPORT SALES: By Amendment 1 to Ceiling Price Regulation 61, producer-exporters are provided with an alternative domestic ceiling price to be used in computing ceiling prices for export sales. The action permits the producer exporter to use either his



domestic ceiling price to a foreign buyer of the same class, or his domestic ceiling price to his largest class of domestic purchaser.

For details see: CFR 61, Amdt. 1 (Export Ceiling Price for Producer Exporters) issued Aug. 28, 1951.

\* \* \* \* \*

FUR SEAL MEAL EXEMPT FROM PRICE CONTROL: Amendment 4 to Overriding Regulation 7 exempts fur seal meal from price control. This amendment as issued by the Office of Price Stabilization on August 31 follows:

**GOR 7—EXEMPTION OF CERTAIN FOOD AND RESTAURANT COMMODITIES**

**FUR SEAL MEAL**

Pursuant to the Defense Production Act of 1950, as amended, Executive Order 10161 (15 F. R. 6105), and Economic Stabilization Agency General Order No. 2 (16 F. R. 738), this Amendment 4 to General Overriding Regulation 7 is hereby issued.

**STATEMENT OF CONSIDERATIONS**

This amendment to General Overriding Regulation 7 exempts fur seal meal from price control.

Fur seal meal is a high protein feed ingredient used in animal or poultry feed and for experimental purposes. It is a by-product of the fur seal slaughtering and fur seal hide production operations conducted in Alaska by the United States Government. The Fish and Wildlife Service of the United States Department of the Interior is the only processor of fur seal meal for domestic use, and there

are no imports of the product. The quantity of the meal produced for consumption in the United States is negligible. No more than approximately 400 tons of fur seal meal have been produced annually during the period 1939-1949, and the annual gross proceeds from its sale, during the same period, have never exceeded approximately \$55,000. Moreover, prices for fur seal meal are effectively controlled by the ceiling prices in effect for fish meal and meat scraps, the two principal, competitive high protein feed ingredients used in this country.

It is clear, therefore, that fur seal meal has little or no effect upon the cost of living, in general, or upon the cost of feeds or feed ingredients. Furthermore, any ceiling price restrictions imposed upon the product would involve an administrative burden out of all proportion to the importance of keeping it under price control.

Exemption of this commodity from price regulation will in no way defeat

or impair the price stabilization program or the objectives of the Defense Production Act, as amended.

In view of the limited applicability of this action, the Director has not found it practicable to consult with industry representatives.

**AMENDATORY PROVISIONS**

General Overriding Regulation 7 is amended by adding a new section 7 to read as follows:

Sec. 7. *Fur seal meal.* No ceiling price regulation issued or which may hereafter be issued by the Office of Price Stabilization shall apply to sales of fur seal meal.

(Sec. 704, 64 Stat. 816, as amended; 50 U. S. C. App. Sup. 2154)

*Effective date.* This amendment shall become effective September 5, 1951.

MICHAEL V. DESALLE,

Director of Price Stabilization.

AUGUST 31, 1951.

\* \* \* \* \*

PUERTO RICAN CEILING PRICES FOR SALTED COD SUSPENDED: Ceiling Price Regulation 51 (Food Products Sold in Puerto Rico), which also contained ceiling prices for salted cod fish sold in Puerto Rico, was suspended indefinitely on July 19 by the Office of Price Stabilization effective July 5, 1951.

For details see: CFR 51 (Food Products Sold in Puerto Rico) Notice of Suspension, dated July 19, 1951.

**SALARY STABILIZATION BOARD**

EXTENSION OF TIME LIMITATION FOR COST-OF-LIVING INCREASES: Section 10 of General Salary Stabilization Regulation 1<sup>1</sup> provides that increases based on cost-of-living provisions in salary plans shall not be effective subsequent to July 31, 1951. However, the Salary Stabilization Board is at present examining the general policies now in effect for the stabilization of salaries and other compensation of the executive, administrative, professional, and outside sales employees under its jurisdiction. In the meantime, General Salary Order No. 1 (Extension of time limitation with regard to cost-of-living increases under Section 8 of General Salary Stabilization Regulation 1) was issued on August 3. This order gives permission to grant cost-of-living increases under the regulation beyond the termination date of July 31.

For details see: General Salary Order No. 1, dated Aug. 3, 1951

<sup>1</sup>/SEE COMMERCIAL FISHERIES REVIEW, JULY 1951, P. 73.

\* \* \* \* \*



PROFIT-SHARING AND OTHER BONUSES REGULATION: General Salary Stabilization Regulation 2 (Profit-Sharing and Other Bonuses) was issued by the Salary Stabilization Board on August 20.

The regulation divides bonuses into three categories. The first category includes contracts or written plans which provide a definite method or formula for both the determination of the profit sharing bonus and its allocation.

The second category of profit-sharing bonuses provided for by the regulation consists of plans that provide a certain percentage of the profits to be set aside for distribution among groups of executive, administrative, or professional personnel, with the method of allocation among the personnel discretionary in the sense that no employee has a contractual right to any bonus unless and until his share has been allocated. The regulation stabilizes the bonus fund under this type of plan in terms of a "base period bonus fund."

The third category of profit-sharing bonuses covered by the regulation is the type that is purely discretionary.

For details see: General Stabilization Regulation 2 (Profit-Sharing and Other Bonuses), adopted Aug. 17, 1951.

#### WAGE STABILIZATION BOARD

CONTINUANCE OF CUSTOMARY BONUS PRACTICES AUTHORIZED: A new regulation authorizing continuance of customary bonus practices, subject to defined limitations, without prior Wage Stabilization Board approval was issued by that agency on July 24.

Generally, the new regulation (General Wage Regulation No. 14--Bonuses) permits payments which customarily are made only once or twice a year, such as a profit-sharing bonus or a Christmas bonus. The regulation does not apply to bonus payments which are computed by the employer more frequently than every three months or are directly related to the number of hours worked or units produced or sold by the employee receiving the bonus. In the absence of a plan, the total amount or percentage of bonus given to any employee during any bonus year shall not exceed the amount or percentage of bonus paid to the employee during the preceding bonus year.

Applications for approval of bonus payments not authorized by Regulation 14 should be submitted to the nearest appropriate office of the Wage-Hour Division. Under the new regulation, bonus payments which conform to an established plan may be paid without prior Board approval subject to three standards outlined in the regulation.

The regulation provides that any increase in bonus payments, after the January 1950 base date, which results from a change in the method or formula of computing the bonuses, shall be offset against the 10 percent wage adjustment permissible under General Wage Regulation 6.

For details see: GWR 14 (Bonuses) dated July 24, 1951.

\* \* \* \* \*

FRINGE BENEFITS REGULATION: A new regulation (General Wage Regulation No. 13 - Fringe Benefits) providing for action on cases involving paid vacations, shift differentials, and similar fringe benefits which do not exceed prevailing industry or



area practice either as to amount or type was adopted by the Wage Stabilization Board on July 19. The regulation does not apply to health, welfare, and pension plans.

Pending a review of basic wage stabilization policy, the Board issued this Regulation to deal with paid vacations, paid holidays, premium pay relative to days and hours of work, shift differentials, call-in pay, and such other fringe benefits as it may from time to time determine.

Under Regulation 13, fringe benefits of this type which are approved by the Board will not be offset against the 10 percent general wage adjustment permissible under General Wage Regulation 6.

Petitions for approval of paid vacations or similar fringe items should be submitted to the nearest appropriate Wage-Hour Division field office for transmission to the WSB. The petitions should include proof that the proposed fringe benefits do not exceed prevailing industry and area practice either as to amount or type.

For details see: GWR 13 (Fringe Benefits), dated July 19, 1951.

\* \* \* \* \*

WAGE AND SALARY ADJUSTMENTS FOR INDIVIDUAL EMPLOYEES: Rules and procedures governing the administration of wage and salary structures within which increases in the compensation of individual employees may be made without specific approval of the Wage Stabilization Board were adopted on July 27 by that Board. General Wage Regulation No. 5, Revised, has been revised so as to provide broad limitations to safeguard the ends of stabilization while leaving maximum flexibility to employers and employees.

These increases do not ordinarily affect the general level of an establishment's wages and salaries. In fact, these individual employee adjustments, when properly made, do not normally increase labor costs, WSB points out.

The Board recognizes the necessity of permitting the administration of existing wage and salary structures to continue in a normal manner with a minimum of governmental interference. It is necessary, however, to make certain that these wage and salary "housekeeping" practices are not abused in order to pirate labor nor cumulated so as to amount to general wage or salary increases.

There is wide diversity of practice with respect to rate adjustments for individual employees. In some cases, formal written plans have been established which include jobs or job classifications grouped into labor and salary grades with prescribed rate ranges and procedures governing the timing and amount of individual adjustments. In others, there are plans of classification which do not formalize the individual adjustments. Some establishments have plans, either written out or established through years of practice, wherein single rates are paid for jobs and labor grades, and which do not contemplate any individual adjustments, preferring to pay all employees in the occupation or labor grade alike. Another, and very large group of establishments, has followed the practice of giving increases to individual employees on the basis of their merit or length of service and has not created written or formal schedules of rates or rate ranges. Often this type of establishment has so few employees in its various occupations and labor or salary grades that a formal policy would be meaningless. This regulation has been designed to permit past practices and policies, when not in contradiction to the purposes of the Defense Production Act of 1950, to continue with a minimum of interference and administrative work.



The Wage Stabilization Board recognizes nevertheless the possibility that the application of this regulation may for particular establishments or industries result in substantial hardship or inequity. In such cases, the Board will give consideration to requests for approval of plans which do not meet the requirements of this Regulation.

This regulation replaces General Wage Regulation No. 5, as amended, which was issued as a temporary regulation on February 12, 1951.

For details see: GWR 5, Revised (Adjustments for Individual Employees), dated July 27, 1951.

\* \* \* \* \*

WAGE ADJUSTMENTS FOR INDIVIDUAL EMPLOYEES: General Wage Regulation 5 (Adjustments for Individual Employees, Revised), Amendment 2, adopted August 17, prescribes limits within which companies using the personal or random-rate method of wage payment may give merit and length-of-service increases without prior Board approval.

For details see: GWR 5, Revised, Amendment 2, dated Aug. 17, 1951.

\* \* \* \* \*

RULES AND PROCEDURES GOVERNING ADMINISTRATION OF PIECE AND INCENTIVE RATES: Rules and procedures governing the day-to-day administration of piece and incentive rates under General Wage Regulation No. 15 were established and approved during the latter part of July by the Wage Stabilization Board. This regulation replaces the incentive and piece rate provisions of GWR No. 5, as amended February 12, 1951. These individual adjustments under GWR No. 15 are intended to aid in the conversion and expansion of production required by the national mobilization effort.

Some limitation of these adjustments is required in the interest of wage stabilization. If left uncontrolled, the aggregate impact of day-to-day change in piece and incentive rates could breach the stabilization line. Rules to govern the administration of piece and incentive rate systems of wage and salary payment are necessary, WSB states.

Employers who make incentive wage or piece-rate adjustments without WSB approval shall show upon Board request that the adjustments were made in accordance with the principles outlined in the regulation.

For details see: GWR No. 15 (Incentive Wage or Piece Rates).

\* \* \* \* \*

PUERTO RICO AND VIRGIN ISLANDS EXEMPTED FROM WAGE STABILIZATION REGULATIONS: The wages and salaries and other compensation of employees in Puerto Rico and the Virgin Islands are exempted from wage stabilization regulations, according to General Wage Regulation No. 16 dated August 30.

For details see: GWR 16 (Exemption for Puerto Rico and the Virgin Islands), dated Aug. 30, 1951.





## Federal Security Agency FOOD AND DRUG ADMINISTRATION

FRESH AND FROZEN SHRIMP INSPECTION REGULATIONS PROPOSED: In response to a request for inspection of fresh and frozen shrimp, the Food and Drug Administration has draft proposed regulations to cover government inspection of plants processing fresh and frozen shrimp, according to the Federal Register of August 22, 1951).

Prior to final adoption of the proposed regulations, consideration was to be given to any data or views pertaining to these regulations which were submitted in writing to the Federal Security Agency within 30 days from the date of publication of this order in the Federal Register (i.e. not later than September 22, 1951).

These proposed regulations provide for a voluntary inspection service on the processing of fresh and frozen shrimp. Processing of shrimp comprises all the operations, including labeling and storage, necessary to prepare for market shrimp in any of the following forms: raw headless (which may or may not be deveined), iced or frozen; cooked peeled, iced or frozen; completely peeled and deveined, which may or may not be battered and breaded before freezing, or partially peeled deveined shrimp battered and breaded and then frozen. Any plant processing shrimp in any of the forms described may apply for the inspection service.

The proposed regulations will permit packers and processors of shrimp and oysters to operate in any one of the following ways:

1. WITHOUT ANY GOVERNMENT INSPECTION
2. GOVERNMENT INSPECTION OF SHRIMP CANNING OPERATIONS ALONE
3. GOVERNMENT INSPECTION OF OYSTER CANNING OPERATIONS ALONE
4. GOVERNMENT INSPECTION OF SHRIMP FREEZING AND FRESH ICING OPERATIONS ALONE
5. WITH GOVERNMENT INSPECTION OF ANY COMBINATION OF ITEMS 2, 3, AND 4.

The full text of the proposed regulations as published in the Federal Register follows:

### SEAFOOD INSPECTION NOTICE OF PROPOSAL TO ISSUE REGULATIONS COVERING THE INSPECTION OF FRESH AND FROZEN SHRIMP

Pursuant to the provisions of section 702A of the Federal Food, Drug, and Cosmetic Act (49 Stat. 871; 21 U. S. C. 372a), the Federal Security Administrator has heretofore issued regulations (21 CFR Part 155 and 1950 Supp.) governing the inspection of canned shrimp. The Administrator has determined that it has become necessary to expand the sea-food inspection service to cover frozen and iced shrimp products. Accordingly, notice is hereby given pursuant to the Administrative Procedure Act (60 Stat. 237; 5 U. S. C. 1001) that the Federal Security Administrator proposes to revise Part 155 by adding §§ 155.16 through 155.29, inclusive, as hereinafter set forth. Prior to final adoption of the proposed regulations, consideration will be given to any data or views pertaining thereto

which are submitted in writing to the Hearing Clerk, Federal Security Agency, Room 5440, Federal Security Building, Fourth Street and Independence Avenue SW., Washington, D. C., within 30 days from the date of publication of this order in the FEDERAL REGISTER.

#### INSPECTION OF FRESH AND FROZEN SHRIMP

- Sec.
- 155.16 Application for inspection service.
  - 155.17 Granting or refusing inspection service; cancellation of application.
  - 155.18 Inspection periods.
  - 155.19 Assignment of inspectors.
  - 155.20 Uninspected shrimp excluded from inspected establishments.
  - 155.21 General requirements for plant and equipment.
  - 155.22 General operating conditions.
  - 155.23 Code marking.
  - 155.24 Freezing, icing, and refrigeration.
  - 155.25 Examination after processing.
  - 155.26 Labeling.
  - 155.27 Certificates of inspection; warehousing and export permits.
  - 155.28 Inspection fees.
  - 155.29 Suspension, withdrawal, and termination of inspection service.

§ 155.16 *Application for inspection service.* (a) Applications for inspection service on the processing of fresh and frozen shrimp under the provisions of section 702A of the Federal Food, Drug, and Cosmetic Act shall be on forms supplied by the Food and Drug Administration. The processing of shrimp comprises all the operations, including labeling and storage, necessary to prepare for the market shrimp in any of the following forms: Raw headless (which may or may not be deveined), iced or frozen; cooked peeled, iced or frozen; completely peeled and deveined, which may or may not be battered and breaded before freezing, or partially peeled deveined shrimp battered and breaded and then frozen. No application for an inspection period filed with the Food and Drug Administration after May 1, preceding such period in any year, shall be considered unless the applicant shows substantial cause for failure to file such application on or before May 1 of such year. A separate application shall be



made for each inspection period in each establishment in which the service is applied for. Each application for an inspection period shall be accompanied by an advance deposit of \$525.00 as prescribed by § 155.28 (b). Such deposit shall be paid in the manner prescribed by § 155.28 (e).

(b) An application by two or more packers for inspection service in one establishment to be jointly or severally operated by them shall be accompanied by an agreement signed by such packers binding each to be jointly and severally liable for the payment of all fees and deposits required for such establishment by § 155.28.

(c) For the purpose of §§ 155.16 to 155.29 an establishment is defined as a factory where shrimp may be completely processed in any of the forms described in paragraph (a) of this section.

§ 155.17 *Granting or refusing inspection service; cancellation of application.*

(a) The Federal Security Administrator may grant the inspection service applied for when he determines that the establishment covered by such application complies with the requirements of § 155.21.

(b) The Administrator may refuse to grant the inspection service at any establishment for cause. In case of refusal he shall notify the applicant of the reason therefor and shall return to such applicant the payment which accompanied the application, less any expenses incurred by the Food and Drug Administration for preliminary inspection of the establishment or for other purposes incident to such application.

(c) The applicant, by giving written notice to the Administrator, may withdraw his application for inspection service before July 1 preceding the inspection period covered by the application. In case of such withdrawal, the Administrator shall return to such applicant the payment that accompanied the application, less any salary and other expense incurred by the Administration incident to such application.

§ 155.18 *Inspection periods.* (a) Each inspection period shall be for not more than 1 year, and shall begin on July 1 of each year. Upon request of the packer, and with the approval of the Administration, such service during any inspection period may be transferred from one establishment to another to be operated by the same packer. In case of such transfer the packer shall furnish all necessary transportation of inspectors.

(b) For the first year that inspection service is offered on all forms of shrimp processing, the date of the beginning of the inspection period shall be regarded as the date specified for the beginning of the service in the application therefor, or such other date as may be specified by the Administration; but if the Administrator is not prepared to begin the service on the specified date, the date of the beginning of such period shall be regarded as the date on which the service is begun.

(c) Inspection service shall be continuous throughout the inspection period.

(d) The inspection service will not permit processing of shrimp from waters closed by State conservation laws.

§ 155.19 *Assignment of inspectors.*

(a) An initial assignment of at least one inspector shall be made to each establishment in which inspection service under §§ 155.16 to 155.29 is granted. Thereafter the Administration shall adjust the number of inspectors assigned to each establishment to the number required for continuous and efficient inspection.

(b) Any inspector of the Administration shall have free access at all times to all parts of the establishment and to all fishing and freight boats and other conveyances catching shrimp for, or transporting shrimp to, such establishment.

§ 155.20 *Uninspected shrimp excluded from inspected establishments.*

(a) No establishment to which inspection service has been granted shall at any time thereafter process shrimp which has not been so inspected; but this paragraph shall not apply to an establishment after termination of inspection service therein as authorized by § 155.29.

(b) All shrimp and other ingredients entering into the finished products shall be subject to inspection when delivered to the establishment or at any time thereafter. Certificates of inspection shall be issued on all shrimp handled and processed in accordance with these regulations.

§ 155.21 *General requirements for plant and equipment.*

(a) All exterior openings of the establishment shall be adequately screened, and roofs and exterior walls shall be tight. When necessary, fly traps or other approved insect-control devices shall be installed.

(b) Except for raw headless shrimp, which may or may not be deveined, picking and packing rooms shall be separate, and fixtures and equipment thereof shall be so constructed and arranged as to permit thorough cleaning. Such rooms shall be adequately lighted and ventilated, and the floors thereof shall be tight and arranged for thorough cleaning and proper drainage. Open drains from picking room shall not enter packing room. If picking and packing rooms are in separate buildings, such buildings shall not be more than 100 yards apart unless adequate provisions are made to enable efficient inspection.

(c) All surfaces of tanks, belts, tables, flumes, utensils, and other equipment with which either picked or unpicked shrimp come in contact after delivery to the establishment shall be of metal other than lead, or of other nonporous and easily cleanable materials. Metal seams shall be smoothly soldered.

(d) Adequate supplies of steam, non-toxic detergents, sanitizing agents, and clean, unpolluted running water shall be provided for washing, cleaning, and otherwise maintaining the establishment in a sanitary condition.

(e) Adequate toilet facilities of sanitary type shall be provided. Full com-

pliance must be met with the requirements of State laws, city ordinances, or both.

(f) An adequate number of sanitary wash basins, with liquid or powdered soap, shall be provided in both the picking and packing rooms. Paper towels shall be provided in the packing room. Provision shall be made for sanitizing the hands of employees by the use of agents approved by the Administration.

(g) Signs requiring employees handling shrimp to wash and sanitize their hands after each absence from post of duty shall be conspicuously posted in the picking and packing rooms and elsewhere about the establishment as conditions require.

(h) One or more suitable washing devices and one or more suitable inspection belts shall be installed for the washing and subsequent inspection of the shrimp before processing.

(i) Suitable containers, flumes, chutes, or conveyors shall be provided for removal of offal from picking room.

(j) Picking or heading tables shall be equipped with flumes supplied with clean, unpolluted water or with mechanical conveyors for removing the picked or headed shrimp.

(k) Equipment shall be provided for code-marking immediate containers and the master cartons used in the packaging of the shrimp.

(l) Each freezing and cold-storage compartment shall be fitted with at least the following equipment:

(1) An automatic control for regulating temperatures.

(2) An indicating thermometer so installed as to indicate accurately the temperature within the freezing or storage compartment.

(3) A recording thermometer shall be installed on each freezing and/or storage compartment in such a manner as to record accurately the temperature within the compartment at all times. The case which houses the charts and recording mechanism shall be provided with an approved lock, all keys to which shall be in the sole custody of the inspector.

(m) Provision shall be made for water-glazing where such glazing is necessary to maintain the quality of the frozen shrimp. Glazing shall be done with clean, unpolluted water.

(n) Provision shall be made for the immediate icing or cold storage of all packaged shrimp which is destined for sale as unfrozen shrimp.

(o) Suitable space and facilities shall be provided for the inspector to prepare records and examine samples and for the safekeeping of records and equipment.

§ 155.22 *General operating conditions.*

(a) The decks and holds of boats catching shrimp for, or transporting shrimp to, an inspected establishment, and the bodies of other conveyances so transporting shrimp shall be kept in a sanitary condition. The shrimp shall be refrigerated immediately after they are caught, and shall be kept adequately refrigerated until delivery to the establishment.



(b) Inspected establishments, freight boats, and other conveyances serving such establishments shall accept only fresh, clean, sound shrimp.

(c) After delivery of each load of shrimp to the establishment, decks and holds of each boat and the body of each other conveyance or container making such delivery shall be washed down with clean, unpolluted water, and all debris shall be cleaned therefrom before such boat or other conveyance or container leaves the establishment premises.

(d) Before picking, heading, or de-veining, the shrimp shall be adequately washed with clean, unpolluted water and then passed over the inspection belt and culled to remove all shrimp that are filthy, decomposed, putrid, or otherwise unfit for food, and all extraneous material.

(e) Offal from picking tables shall not be piled on the floor, but shall be placed in suitable containers for frequent removal, or shall be removed by flumes, conveyors, or chutes.

(f) Shrimp shall be picked into flumes which immediately remove the picked meats from the picking tables; except that shrimp may be picked into seamless containers of not more than 3 pints capacity if the picked meats are not held in such containers for more than 20 minutes before being flumed or conveyed from the picking tables. For the purpose of this paragraph, the term "picked" shall include the operation whereby a portion of the shell is removed, leaving the tail in place, and the back of the shrimp is sliced open to remove the alimentary canal or vein.

(g) If shrimp are picked into containers, such containers shall be cleaned and sanitized as often as may be necessary to maintain them in a sanitary condition, but in no case less frequently than every 2 hours. Whenever pickers are absent from post of duty, containers shall be cleaned and sanitized before picking is resumed.

(h) Picked shrimp being transported from one building to another before enclosure in the can or other immediate container shall be properly covered and protected against contamination.

(i) From the time of delivery to the establishment up to the time of final processing, shrimp shall be handled expeditiously and under such conditions as to prevent contamination or spoilage. Shrimp shall be precooled immediately after the final cleaning operation to a temperature not exceeding 40° F. If it is not packaged immediately, or to a temperature not exceeding 50° F. if it is packaged immediately. If such shrimp are to be frozen they shall be placed in the freezing compartment within 1 hour of final preparation.

(j) The packer shall immediately destroy for food purposes all shrimp in his possession condemned by the inspector as filthy, decomposed, putrid, or otherwise unfit for food. Shrimp condemned on boat or unloading platform shall not be taken into the ice box or picking room.

(k) Raw materials other than shrimp which enter into the finished product shall not be used if condemned by the inspector as unfit for food. Such condemned raw materials shall be segregated from usable materials and held for disposal as directed by the inspector, or they may be destroyed forthwith by the packer if he so desires.

(l) All portions of the establishment shall be adequately lighted to enable the inspector to perform his duties properly.

(m) All floors and other parts of the establishment, including unloading platforms, and all fixtures, equipment, and utensils shall be cleaned as often as may be necessary to maintain them in sanitary condition.

(n) The packer shall require all employees handling shrimp to wash and sanitize their hands after each absence from post of duty.

(o) The packer shall require all employees to observe proper habits of cleanliness, and shall not knowingly employ in or about the establishment any person afflicted with infectious or contagious disease, or with any open sore on the hands or face.

(p) Offal, debris, or refuse from any source whatever shall not be allowed to accumulate in or about the establishment.

(q) If batter is employed it shall be used within 1 hour after it is prepared. The temperature of the batter shall not exceed 50° F.

(r) Containers for mixing or holding batter shall be adequately cleaned and sanitized before they are used for a new batch of batter.

(s) Equipment for applying batter shall be adequately cleaned and sanitized at least once an hour while in operation.

§ 155.23 *Code marking.* (a) Permanently legible code marks shall be placed on all immediate containers at the time of packaging. Such marks shall show:

- (1) The date of packing.
- (2) The establishment where packed.
- (3) The size of the shrimp, where the label bears a size designation and the shrimp are not in containers through which they are clearly visible.

Corresponding code marks also shall be placed on the master cartons containing individual packages of shrimp.

(b) Keys to all code marks shall be given to the inspector.

(c) Each lot shall be stored separately, pending final inspection. For the purposes of the regulations in this part, all immediate containers bearing the same code mark shall be regarded as comprising a lot.

§ 155.24. *Freezing, icing, and refrigeration.* (a) The method of freezing is not specified by these regulations. Whatever method is used must be such as will produce a hard-frozen product in a sufficiently short time to prevent decomposition. Bulk packages containing 5 pounds or more of shrimp per package should be hard-frozen within 24 hours; smaller packages should be

hard-frozen within 12 hours. After freezing, the shrimp shall be stored in such manner that its temperature does not exceed 0° F. and shall be handled in such manner as will maintain the hard-frozen condition.

(b) The storage temperatures for shrimp which are not frozen are as follows:

(1) Cooked and peeled shrimp shall be stored at a room temperature not exceeding 35° F.

(2) Raw headless shrimp shall be stored at a room temperature not exceeding 35° F. or at a room temperature not exceeding 45° F., provided it is well iced.

(c) The inspector shall identify each record on the thermometer chart with the code mark of the lot to which such record relates and the date of such record. The Administration shall keep such charts for at least 5 years, and upon request shall make them available to the packer.

(d) The packer shall keep for at least 1 year all shipping records covering shipments from each lot, and upon request shall furnish such records to any inspector of the Administration.

§ 155.25 *Examination after processing.* (a) Adequate samples shall be drawn by the inspector from each lot of processed shrimp and shall be examined to determine whether or not such processed shrimp conforms to all requirements of the Federal Food, Drug, and Cosmetic Act, amendments thereto, and regulations thereunder.

(b) The packer shall destroy for food purposes, under the immediate supervision of the inspector, all processed shrimp condemned by the inspector as not complying with § 155.24 (a) or (b), as the case may be, or as filthy, decomposed, putrid, or otherwise unfit for food.

§ 155.26 *Labeling.* (a) Labels on shrimp packed and certified under §§ 155.16 to 155.29, inclusive, may bear a distinctive mark attesting to such packing and certification. Depending upon the type of processing, such marks, if used, shall read as follows:

(1) *Frozen shrimp.* "Packing and freezing supervised by U. S. Food and Drug Administration. Perishable product—Not warranted against mishandling after freezing."

(2) *Fresh, iced, or refrigerated shrimp.* "Packing supervised by U. S. Food and Drug Administration. Perishable product—Not warranted against mishandling after packing."

Such marks, if used, shall be plainly and conspicuously displayed in type of uniform size and style on a strongly contrasting uniform background, and shall appear on the principal panel or panels of the label so as to be easily observable in connection with the name of the article. Labels on inspected shrimp shall bear the statement "Perishable—Keep frozen" or "Perishable—Keep re-



"refrigerated," whichever is applicable for the product. The marks referred to in paragraph (a) (1) and (2) of this section shall not be used on the master cartons unless such marks will be defaced by the opening of the carton.

(b) Two proofs, or one proof and one photostat thereof, or eight specimens of all labeling intended for use on inspected shrimp or on or within the cases therefor, shall be submitted to the Administration for approval. If proofs or photostat and proof are submitted, eight specimens of the labeling shall be sent to the Administration after printing. The Administration is hereby authorized to approve labeling for use on or with shrimp inspected under §§ 155.16 to 155.29, inclusive. Approval shall be subject to the condition that such labeling shall be so used as to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, amendments thereto, and regulations thereunder. The Administration is also hereby authorized to revoke any such approval for cause. The Administration shall not approve labeling for shrimp intended for export under the provisions of § 155.27 (e).

(c) No commercial brand or brand name appearing on labeling approved as authorized under paragraph (b) of this section and bearing any of the marks described in paragraph (a) of this section, and no labeling simulating any such approved labeling, shall be used after such approval on shrimp other than that which has been handled, prepared, packed, and stored in compliance with all provisions of §§ 155.16 to 155.29; but this section shall not apply to any packer's labeling after termination of inspection as authorized by § 155.29, or to any distributor's labeling after 3 months' written notice by the owner thereof to the Administration that the use of such labeling on inspected shrimp has been discontinued and will not be resumed.

(d) Shrimp labeling authorized by or approved under paragraph (a) or (b) of this section shall be used only as authorized by §§ 155.16 to 155.29. Unauthorized use of such labeling renders the user liable to the penalties prescribed by the Federal Food, Drug, and Cosmetic Act, as amended.

§ 155.27 *Certificates of inspection; warehousing and export permits.* (a) After finding that the shrimp comprising any parcel: Has been handled, prepared, and packed in compliance with all provisions of §§ 155.16 to 155.29, inclusive; bears labeling approved as authorized under § 155.26; and complies with all the provisions of the Federal Food, Drug, and Cosmetic Act, amendments thereto, and regulations thereunder—the inspector shall issue a certificate showing that such shrimp so complies. The certificate shall specify the code marks to which it applies, the quantity of the parcel so marked, the place where such parcel is stored, the size of the shrimp where there is a label declaration of size, the size and kind of containers, the type of pack, the commercial brand name on the labels, destination of the lot, and the condition

of the shrimp if it is broken. Such certificate shall become void: If such labeling is removed, altered, obliterated, or replaced (but such shrimp may be relabeled under the supervision of an inspector and recertified if the inspector finds that, after being relabeled, it complies with the requirements laid down by this paragraph for the issuance of a certificate); or if mishandling, improper storage, or other circumstances so change the product that it no longer complies with the requirements for the issuance of a certificate.

(b) Unless covered by certificate, shrimp shall be moved from an inspected establishment only for storage authorized under paragraph (c) of this section; or export authorized under paragraph (e) of this section, or for destruction as provided by § 155.25 (b).

(c) Applications to move uncertified shrimp from storage in a warehouse or cold storage elsewhere than in the establishment where such shrimp was packed shall give the name and location of the warehouse, freezer or cold storage in which such shrimp is to be stored. The application shall be accompanied by an agreement signed by the operator of such warehouse, freezer or cold storage that inspectors shall have free access at all times to all shrimp so stored, and that conditions which will preserve the identity of each parcel of such shrimp shall be continuously maintained pending issuance of a certificate thereon or removal as authorized by paragraph (d) of this section. If such application is approved and it appears to the inspector that the shrimp comprising any parcel has been packed in compliance with §§ 155.16 to 155.29, inclusive; is not slack-filled; and conforms, except for the absence of labeling, to all requirements of the Federal Food, Drug, and Cosmetic Act, amendments thereto, and regulations thereunder, the inspector shall issue to the applicant, on his request, a warehousing permit covering such shrimp. Such permit shall specify the code marks to which it applies, the quantity of the parcel so marked, the place from and to which such parcel is to be moved, the size of the shrimp, the size and kind of containers, the type of pack and the condition of the shrimp, if it is broken. When any provision of the agreement is violated, the Administration may revoke any permit issued pursuant to such agreement, and may also revoke its approval of the application for warehousing or cold storage which accompanied such agreement.

(d) Unless covered by certificate, shrimp stored under the authority of paragraph (c) of this section shall be moved from the warehouse or cold storage where stored only for restorage under such authority, or for return upon written permission of the inspector to the establishment where packed, or for export authorized under paragraph (e) of this section, or for destruction as provided by § 155.25 (b).

(e) Section 801 (d) of the Federal Food, Drug, and Cosmetic Act provides

that a food intended for export shall not be deemed to be adulterated or misbranded under the act if it accords to the specifications of the foreign purchaser; is not in conflict with the laws of the country to which it is intended for export and is labeled on the outside of the shipping package to show that it is intended for export. An application to export shrimp under the provisions of section 801 (d) of the act shall be accompanied by the original or a verified copy of the specifications of the foreign purchaser; if so required by the Administration, evidence showing that such shrimp is not in conflict with the laws of the country to which it is intended for export; and, if shipment of labeled shrimp is specified or directed, eight specimens of the labeling therefor. If shrimp prepared or packed according to such specifications is not in conflict with the laws of such country, the Administration shall direct the inspector to issue to the applicant an export permit covering such shrimp comprising any parcel ordered by such specifications, when the inspector finds that such shrimp was packed in compliance with the requirements of §§ 155.16 to 155.29 regarding sanitary conditions and processing; is not filthy, decomposed, putrid, or otherwise unfit for food; accords to such specifications; and is labeled on the outside of the shipping package to show that it is intended for export. Such permit shall specify the code marks to which it applies and the quantity of the parcel so marked, and shall show that such shrimp was packed under sanitary conditions, is wholesome, and accords to the specifications. The applicant shall furnish to the inspector documentary evidence showing the exportation of all such shrimp. Shrimp intended for export under this section shall not be stored in any warehouse or cold storage in the United States elsewhere than in the establishment where such shrimp was prepared or packed, except on written permission of the inspector or of the chief of the Food and Drug Administration district within whose territory such warehouse or cold storage is located.

§ 155.28 *Inspection fees.* (a) Except as otherwise provided by the regulations in this part, the fee prescribed for inspection service shall be 25 cents per 100 pounds of whole shrimp or 35 cents per 100 pounds of frozen or fresh raw headless shrimp received by the plant. Advance deposits of not less than \$500.00 shall be made whenever necessary to prevent arrearages in the payment of fees, unless the Administration on an estimate of output authorizes payment in other amounts. Any excess advance deposits so made for the fiscal year shall be returned to the packer by the Administration after the completion of the fiscal year.

(b) (1) In addition to the fee prescribed by paragraph (a) of this section, an initial deposit of \$525.00 shall accompany each application for inspection; thereafter, 11 monthly deposits of \$525.00 each shall be made on or before



the first day of each month beginning June 1 and continuing through April 1: *Provided*, That a packer who is concurrently receiving inspection service under the regulations for the inspection of canned shrimp or canned oysters or both shall not pay any additional advance deposits under this paragraph. The Commissioner of Food and Drugs may require the full amount of advance deposits prescribed by this paragraph to accompany the application of an applicant who has defaulted in payment of any advance deposit due for any prior packing season.

(2) Whenever it is determined, without hearing, by the Commissioner of Food and Drugs that an establishment having the inspection service has been damaged by wind, fire, flood, or other calamity to such extent that packing operations cannot be resumed before the end of the fiscal year then current, no advance monthly deposits falling due after such calamity will be required from the operator of such establishment for that fiscal year; but whenever it is determined, without hearing, by the Commissioner of Food and Drugs that an establishment having the inspection service has been so damaged by any such calamity that packing operations must be suspended temporarily and can be resumed before the end of the fiscal year then current, payment of the advance monthly deposits falling due after such calamity and before the month of resumption of operations shall be postponed until operations are resumed and thereupon shall be paid in equal monthly installments during the period between the time of resumption of operations and June 1 of the fiscal year then current: *Provided*, That in the event of a determination described in this subparagraph the total deposits made by the operator involved shall be charged with the cost of the service made available for the establishment, without regard to the method provided hereinafter for computing charges against deposits, and the balance of the total deposits remaining after such charges shall be returned by the Administration to the operator of the establishment after the completion of the fiscal year.

(3) Advance deposits made under this paragraph shall be charged with the cost of the inspection service that has not been provided for by fees under

paragraph (a) of this section. The deposits by each packer shall be so charged in the same ratio to the total deposits made under this paragraph and under § 155.12 (b) for the inspection of canned shrimp and under § 155.42 (b) for the inspection of canned oysters and under this paragraph for the inspection of fresh and frozen shrimp, as the number of months of inspection service (including the number of months, if any, for inspecting canned shrimp or canned oysters or fresh and frozen shrimp or any combination of these inspection services) rendered in such packer's establishment bears to the total number of months of inspection service for shrimp and oysters rendered in all establishments. The balance remaining after such charges have been made shall be returned by the Administration to the packers after the completion of the fiscal year. When inspection service is withdrawn from an establishment as authorized by § 155.29 (a), the Administration shall not return to the packer any of the advance deposits made for such establishments; such deposits shall be charged with the cost of the service made available for the establishment, without regard to the method as prescribed in this paragraph, and the balance that would have accrued to such packer shall remain to the credit of the Food and Drug Administration in the special account "Salaries and Expenses, Certification and Inspection Services."

(c) A separate fee shall be paid to cover all expenses incurred in accordance with the regulations of the United States Government, for salary, travel, subsistence, and other purposes incident to inspection for the purpose of issuing a certificate of warehousing or export permit on shrimp stored or held at any place other than an establishment to which a seafood inspector is then assigned.

(d) When the establishment and the warehouse or cold storage of an establishment are located at different points of such distance apart that transportation between them is required for the inspector to perform his duties in the establishment, the packer shall furnish such transportation or shall pay an extra fee to cover all expenses therefor.

(e) All payments required by the regulations in this part shall be by bank draft or certified check, collectable at

par, drawn to the order of the Treasurer, United States, and payable at Washington, D. C. All such drafts and checks, except for the payment required by § 155.16, shall be delivered to the inspector and promptly scheduled to the Food and Drug Administration, Federal Security Agency, Washington, D. C., whereupon after making appropriate records thereof they will be endorsed and transmitted to the Chief Disbursing Officer, Division of Disbursement, Treasury Department, for deposit to the special account "Certification and Inspection Services, Food and Drug Administration."

(f) Refunds to the packers making advance deposits will be by check drawn on the Treasury of the United States pursuant to refund vouchers duly certified and approved by the designated administrative officers

§ 155.29 *Suspension, withdrawal, and termination of inspection service.* (a) The Administration may suspend and the Administrator may withdraw inspection service in any establishment—

(1) Upon failure of the packer to comply with any provision of §§ 155.16 to 155.29, inclusive, or

(2) Upon the dissemination by the packer or any person in privity with him of any representation which is false or misleading in any particular regarding the application to any seafood of the inspection service provided by the regulations in this part.

(b) When inspection service is suspended in an establishment, as authorized by paragraph (a) of this section, the Administration shall not lengthen the inspection period in such establishment to compensate for any of the time of suspension.

(c) After inspection service for a fiscal year is closed in an establishment, but before the resumption of packing therein during the next fiscal year, the packer may terminate inspection service under the regulations in this part by giving written notice of such termination to the Food and Drug Administration.

Dated: August 16, 1951.

[SEAL]

JOHN L. THURSTON,  
Acting Administrator.



## Department of the Interior DEFENSE FISHERIES ADMINISTRATION

**NPA TIGHTENS CONSTRUCTION CONTROLS:** Applications for authorization to construct fish processing and production facilities should be postmarked by midnight, October 15, 1951, in order to be eligible for consideration for a first quarter 1952 allotment of controlled materials, the Defense Fisheries Administration announced on September 4.



As claimant agency for the fishing industry, the Defense Fisheries Administration will process applications for the construction of fish handling plants, such as fish canneries, fish reduction plants, dock facilities for loading and unloading, and filleting plants.

DFA points out that the National Production Authority has revoked its basic construction order M-4, replacing it with new regulations contained in M-4A, dated August 20. This new order tightens controls over larger building projects but removes the necessity of applications to NPA for permission to begin construction or to get allotments of materials for buildings or projects using relatively small amounts of steel, copper, and aluminum.

The new regulations, while allowing a system of self-authorization for small amounts of critical materials, place all construction under NPA's Controlled Materials Plan beginning with the fourth quarter of 1951. Hereafter, application must be made to the appropriate Government agency (Defense Fisheries Administration in the case of construction for fish handling or processing plants) for permission to build and for an allotment of controlled materials, as provided for in CMP regulations, for all construction projects using more than the minimum amounts of controlled materials for which self-authorization is allowed in the new regulations.

The self-authorization ceiling for industrial plants, factories, or facilities, per project, per calendar quarter, is:

25 TONS OF CARBON AND ALLOY STEEL, INCLUDING STRUCTURAL STEEL (NOT TO INCLUDE MORE THAN 2.5 TONS OF ALLOY STEEL AND NO STAINLESS STEEL), 2,000 POUNDS OF COPPER AND COPPER-BASE ALLOYS, AND 1,000 POUNDS OF ALUMINUM.

Persons engaged in construction projects requiring less than the above quantities of controlled materials are authorized to use the self-certification "U-6 certified under CMP-Reg. 6" for the procurement of these materials scheduled for delivery after September 30, 1951, and the preference rating "DO-U-6 certified under CMP-Reg. 6" for the procurement of materials other than controlled materials required for such construction, the latter likewise to be scheduled for delivery after September 30, 1951. The self-authorization procedure may be used only when a person requires delivery of controlled materials. If he requires only products or materials other than controlled materials, he may not use the self-authorization procedure but must be authorized to use the DO rating to acquire such products or materials pursuant to an application submitted to DFA on Form CMP-4C.

Prior to October 1, 1951, a prime contractor may commence new construction or continue construction already started provided his requirements of each kind of controlled material for completing such a project, including material for Class A products, do not exceed the above-listed amounts. However, no priority assistance for materials will be made available for any such construction for delivery before October 1, 1951. Nor will priority assistance be made available before that date to acquire products or materials, or to make inventory replacements, or to acquire production machinery or equipment.

Prime contractors requiring controlled materials for constructing fish handling or processing plants in amounts greater than the minimum quantities listed above must apply to DFA on Form CMP-4C in accordance with NPA order M-4A and CMP-6. This form requests (1) approval to commence or continue the project, (2) an allotment of controlled materials, and (3) a preference rating for materials other than controlled materials.



For all subsequent quarters, applications must be postmarked by midnight of the 15th day of the first month of the quarter preceding the one for which the delivery of the controlled materials is scheduled. Only cases involving hardship, disaster, or extreme essentiality can be considered after these dates, and then only if any unallotted amounts of material remain.

This action is necessary, DFA explained, since the quantities of controlled materials for this type of construction are severely limited, and only by considering all applications for any particular quarter at a single time can the most equitable distribution be made. Early filing of requests for permission to construct, and for allocations of controlled material, is likewise necessary so that builders of approved projects can place their orders in time to obtain delivery in the quarter in which the material is required.

Application forms, CMP-4C, and instruction sheets may be obtained from field offices of the Department of Commerce. However, such applications should be mailed directly to the Defense Fisheries Administration, Department of the Interior, Washington 25, D. C. All questions should be answered in as complete detail as possible, with particular emphasis on the instructions contained in Section 1 of Form CMP-4C.

Firms contemplating construction of fish handling or processing plants during 1952 should inform the Defense Fisheries Administration of their plans as far in advance as possible so that controlled materials for the projects can be obtained for the quarter in which they will be required.

For details see: NPA order M-4A as amended Aug. 20, 1951.

NOTE: ALSO SEE P. 58 OF THIS ISSUE.



## Department of State

NORWAY SIGNS TORQUAY PROTOCOL TO GATT: The United States Government has been informed by the headquarters of the United Nations that the Government of Norway, on July 3, 1951, signed the Torquay Protocol to the General Agreement on Tariffs and Trade. The terms of the protocol require that the concessions negotiated between the United States and Norway at the recent tariff conference at Torquay, England, but which have heretofore been withheld, be put into effect on the thirtieth day--August 2, 1951--after Norway's signature of the instrument.

At Torquay, Norway granted substantial concessions on its imports of both agricultural and non-agricultural products of the United States. More than half of these concessions were reductions in duty; the remainder consisted of binding of existing duties or duty-free treatment.

In addition to the concessions directly negotiated with the United States at Torquay, Norway made numerous concessions to other countries on products of interest to United States exporters.

Among the products to which United States concessions initially negotiated with Norway apply are special types of canned sardines and herrings and certain other fish products, and fish hooks.

The specific United States concessions which will be put into effect as a result of Norway's signature of the Torquay Protocol will be announced later.

NOTE: SEE COMMERCIAL FISHERIES REVIEW, JULY 1951, P. 26.

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TARIFF CONCESSIONS DENIED TO COMMUNIST BLOC: On August 1, 1951, the President signed a proclamation giving effect to sections 5 and 11 of the Trade Agreements Extension Act of 1951, which provide that, as soon as practicable, he shall withdraw the benefits of trade-agreement concessions "to imports from the Union of Soviet Socialist Republics and to imports from any nation or area dominated or controlled by the foreign government or foreign organization controlling the world Communist movement," and shall prevent the importation of certain furs which are the product of the Soviet Union and Communist China. He also signed a letter to the Secretary of the Treasury under this proclamation (1) providing that reductions in rates of duty made in trade agreements should be suspended after the close of business August 31, 1951, in the case of Albania, Communist China, Soviet Zone of Germany, Estonia, the Communist parts of the Associated States of Indochina and Korea, the Kurile Islands, Latvia, Lithuania, Outer Mongolia, Rumania, Southern Sakhalin, Tanna Tuva, as to which such withdrawal would not on that date conflict with any international obligations and (2) preventing the importation from Communist China of ermine, fox, kolinsky, marten, mink, muskrat, and weasel furs and skins, dressed and undressed after the close of business August 31, 1951.

The Department of State has taken steps to terminate most-favored nation commitments to Bulgaria, Hungary, Poland, Rumania, and Soviet Russia, and withdrawal of trade-agreement concessions from Czechoslovakia. When it is found practicable, as a result of the above steps, to suspend the trade-agreement benefits from these countries, and to prevent the importation of furs from Soviet Russia, the effective dates of such action will be proclaimed by the President.

The Department of State delivered to the Soviet Embassy on June 23, 1951, a note giving notice, according to provisions of the agreement, of the termination of the commercial agreement of August 4, 1937, with the USSR as renewed by the exchange of notes signed on July 31, 1942. The agreement will terminate six months from the date of notice of intention to terminate. On June 27 similar action was taken to terminate the provisional commercial agreement of August 20, 1930, with Rumania, which provides for a thirty-day notification of intention to terminate.

A request to notify the Bulgarian Government of termination of the provisional commercial agreement of August 18, 1932, with Bulgaria has been conveyed to the Government of Switzerland. This procedure is being followed in view of the suspension of relations between the United States and Bulgaria in February 1950. The agreement with Bulgaria provides for advance notice of three months for denunciation.

With Hungary and Poland, the most-favored-nation provisions in customs matters are parts of broader treaties of friendship, commerce, and consular rights. In the treaty between the United States and Hungary signed June 24, 1925, the most-favored-nation provisions appear in Article VII. In the treaty between the United States and Poland, signed on June 15, 1931, the most-favored-nation provisions are contained in Article VI. The Hungarian treaty requires that notice of termination be given one year in advance; the Polish treaty prescribes a six months period of notice.

Notices to modify these treaties by terminating Articles VII and VI respectively, or to terminate the treaties as a whole, were delivered to the Hungarian and Polish representatives in Washington on July 5, 1951. It is also anticipated that the President will promptly take action to set in motion the operation of Section 5 (denial of tariff concessions) of the newly-enacted Trade Agreements Extension Act in the case of satellite countries and areas with which the United States has no commercial agreement.



The United States has requested that the item "Termination of Obligations between the United States and Czechoslovakia" be placed on the agenda of the Sixth Session of the Contracting Parties to the General Agreement on Tariffs and Trade, scheduled to convene at Geneva on September 17, 1951. Since both the United States and Czechoslovakia are contracting parties, the United States proposes that all of the obligations existing between it and Czechoslovakia by virtue of the provisions of the Agreement should be formally terminated, because of nullification of these obligations by political events.

\* \* \* \* \*

TRADE AGREEMENT NEGOTIATIONS WITH VENEZUELA: Formal notice of the intention of the United States Government to negotiate with the Government of Venezuela to supplement and amend the trade agreement with that country of November 6, 1939, was announced by the Department of State on August 29, 1951. United States participation will be under the provisions of the Trade Agreements Act of 1934 as amended and extended.

The Interdepartmental Trade Agreements Committee published a list of products on which modification of United States tariffs or other import restrictions may be considered during the negotiations. No fishery products were contained in this list. The notice points out that United States concessions on articles which are provided for in Schedule II of the 1939 agreement, but which are not included in the list of articles published today, will remain unchanged unless such articles are included in any supplemental list which might be published in the future.

However, in the forthcoming negotiations consideration will be given to possible modifications in, or elimination of, concessions on United States products entering Venezuela as provided in Schedule I of the 1939 agreement, and also to the addition of new items to that schedule, or additional concessions on items already covered by it. Therefore, persons interested in any export product were requested to make known their views with regard to whether existing Venezuelan concessions should be maintained or broadened, and whether new concessions on additional items should be sought from Venezuela.

Under the present agreement, preferential rates are given to Venezuelan imports of frozen and canned salmon, canned sardines, and canned shellfish from the United States. Venezuelan import duties on fishery products were substantially increased effective March 1, 1951, except for those items contained in the trade agreement and imported from the United States and from other countries with which Venezuela has commercial treaties or *modus vivendi* containing most-favored-nation clauses.

Expressions from the fishery trade concerning concessions in the Venezuelan tariff that should be sought or any trade restrictions imposed by Venezuela which have proved burdensome will be considered at the hearings.

Public hearings on the proposed negotiations were scheduled by the Committee for Reciprocity Information on October 9, 1951, at Washington, D. C. Applications for oral presentation of views and information, as well as written briefs or statements, were to be presented to the Committee not later than September 28. Only persons who presented written briefs or statements and filed applications were to be heard.

\* \* \* \* \*

WESTERN GERMANY SIGNS TORQUAY PROTOCOL TO GATT: The Mission of the Federal Republic of Germany to the United States has informed the Department of State that



the Charge d'Affairs of the Mission was expected to sign the Torquay Protocol to the General Agreement on Tariffs and Trade at the headquarters of the United Nations in New York on September 1. Under the provisions of the protocol the Federal Republic will become a contracting party to the General Agreement on October 1, thirty days following its signature of the protocol. On the same date the tariff and other trade concessions negotiated by the Federal Republic at Torquay with the other contracting parties to the agreement, including the United States, will go into effect.

The President of the United States is expected to notify the Secretary of the Treasury shortly that the United States concessions initially negotiated with the Federal Republic at Torquay will go into effect on October 1. No changes in United States import duties for fishery products are involved.

The Federal Republic of Germany will thus become the first among the seven "new" countries which negotiated at Torquay for accession to the agreement, to become a contracting party. At Torquay the Federal Republic negotiated with 20 contracting parties to the agreement and with three of the other acceding governments. Its accession brings the number of contracting parties to 31.

All concessions in German import tariffs negotiated at Torquay will apply to goods imported from any country which is a contracting party to the Agreement. Thus many United States products exported to Germany will benefit from German tariff reductions initially negotiated with other contracting parties. The following fishery items may be of interest to United States fishery industries (the new rates on imports into the Federal Republic of Germany are given):

Tariff Item Number	Commodity Description (abbreviated)	Rate of Duty After Torquay
03 01	Fish, live or dead, fresh, chilled or frozen:	
	A. Fresh-water fish (1) Salmon .....	12 percent
03 03	Oysters, whether in shell or not, fresh, chilled or frozen, salted, dried or simply cooked:	
	1. Spat .....	Free
	2. Other .....	30 percent
16 04	Prepared or preserved fish and fish products:	
	(c) "Other," in hermetically sealed containers:	
	Fish of salmon family, sardelles, sprats, and other .....	25 percent
	Herring, length of live fish not over 16 centimeters, in oil or tomato or both .....	20 "
23 01 (a)	Flour or meal of fish .....	Free
ex 23 07	Condensed stickwater .....	5 percent

German negotiations at Torquay were based upon a draft of an entirely new German tariff law which is to go into effect at the same time that the Federal Republic accedes to the General Agreement. The new tariff is almost entirely on an ad-valorem rather than a specific basis and is based to a large extent on the model nomenclature recommended in 1949 by the European Customs Union Study Group.

\* \* \* \* \*

U. S. CONCESSIONS TO SWEDEN UNDER GATT EFFECTIVE: The President, in a letter of July 3, 1951, to the Secretary of the Treasury, authorized the application, as of July 7, of certain United States tariff concessions negotiated at the 1950-51 tariff conference at Torquay, England, under the General Agreement on Tariffs and



Trade. This action was taken as a result of the signature, by Sweden, on June 7, 1951, of the Torquay Protocol to the General Agreement.

Under the Torquay Protocol a country negotiating there may withhold the concessions initially negotiated with another country until the thirtieth day after that country has signed the protocol and made provision for putting into effect its own concessions.

In addition to Sweden, six other countries with which the United States negotiated at Torquay--the Benelux Customs Union (Belgium, the Netherlands, and Luxembourg), Canada, France, and the Dominican Republic--had previously signed the protocol and United States concessions to those countries were put into effect on June 7.

No changes in United States import duties on fishery products will result from this action.

In negotiations with Canada, Sweden bound free its rate of duty on cod roe in barrels, merely salted, salted sweetened or smoked, and reduced its rate on boiled salmon in tins from 75 kroner per 100 kgs. to 50 kroner. Under provisions of the most-favored-nations clause of the Agreement, these rates are also applicable to imports from the United States.

NOTE: ONE SWEDISH KRONA IS EQUAL TO ABOUT 19 U.S. CENTS.



## Eighty-Second Congress (First Session) JULY 1951

Listed below are public bills and resolutions introduced and referred to committees, or passed by the Eighty-Second Congress (First Session) and signed by the President, that affect in any way the fisheries and allied industries. Public bills and resolutions are shown in this section only when introduced and if passed when they are signed by the President. The more pertinent reports, hearings, or chamber actions on some of the bills shown in this section from month to month are also listed.

### BILLS AND RESOLUTIONS INTRODUCED:

Collisions at Sea: H. R. 5013 (Hart) - A bill to authorize the President to proclaim regulations for preventing collisions at sea; to the Committee on Merchant Marine and Fisheries.

Shrimp Import Duty: H. R. 4999 (Boykin) - A bill to provide for an ad valorem duty on the importation of shrimp; to the Committee on Ways and Means.

### CHAMBER ACTIONS--HOUSE:

Defense Production Act Extension: Reported to House, conference report on S. 1717, amending and extending the Defense Production Act of 1950 (H. Rept. 770). Conference report adopted by a

vote of 94 yeas to 80 nays. Measure sent to White House.

Defense Production Act Extension Passed by House: The House passed, by a roll-call vote of 323 yeas to 92 nays, after rejecting a recommitment motion by a roll-call vote of 117 yeas to 299 nays, the bill H. R. 3871, amending and extending for 1 year the Defense Production Act of 1950.

Subsequently this passage was vacated when S. 1717, a similar bill, was taken from the Speaker's table, amended to contain the text of the House bill, and passed in lieu of H. R. 3871. The House voted to insist on its amendment to S. 1717; requested a conference with the Senate; and appointed conferees.



Prior to passage a separate vote was demanded on several amendments, among which were included the following:

Adopted the Andresen amendment to bar until June 30, 1953, imports of fats and oils, dairy products, peanuts, and rice, 265 yeas to 148 nays.

Adopted the Hope amendment to prevent the placing of quotas on livestock slaughtering, 249 yeas to 167 nays.

Adopted the Wolcott amendment to delete language enlarging the President's authority to acquire property, including facilities, and to erect plants, factories, etc., and to engage in the marketing, transportation, and storage of such critical materials necessary to the national defense; but authorizes installation of additional equipment, facilities, etc., in Government-owned plants and the installation of Government-owned equipment in privately owned plants, 232 yeas to 184 nays.

Adopted a committee amendment authorizing a rollback of 10 percent below the May 10, 1951, prices of agricultural commodities (beef-price rollback), 234 yeas to 183 nays.

Adopted a committee amendment deleting from the bill language relative to licensing and suspension of licenses of certain businesses covered by the scope of the bill, 333 yeas to 82 nays.

Interior Appropriations: House disagreed to Senate amendments to H. R. 3790, making appropriations for the Department of the Interior for fiscal year 1952; agreed to a conference requested by Senate; and appointed conferees.

Conference report submitted to the House on H. R. 3790, making appropriations for the Department of the Interior (including the Fish and Wildlife Service) for the fiscal year ending June 30, 1952. (H. Rept. 775).

The House by a roll-call vote of 189 yeas to 170 nays, recommitted to the committee of conference H. R. 3790, the Department of the Interior appropriation bill for 1952, with instructions for the House conferees to further insist on disagreement to Senate amendment No. 131, which deletes the Jensen amendment.

Tidelands: House by a roll-call vote of 265 yeas to 109 nays passed and sent to the Senate H. R. 4484, a bill to confirm and establish the titles of the States to lands beneath navigable

waters within State boundaries and to the natural resources within such lands and waters. A recommittal motion was rejected by a division vote of 63 yeas to 171 nays. Adopted an amendment providing that all moneys derived from the royalties on leases of land beyond the 3-mile limit be applied to the principal of the national debt; also adopted several perfecting amendments.

#### CHAMBER ACTION--SENATE:

Defense Production Act Extension: Senate agreed to a conference on S. 1717, amending and extending for 1 year the Defense Production Act of 1950, and appointed conferees.

Interior Appropriations: H. R. 3790, Interior appropriations for 1952 (including Fish and Wildlife Service appropriations), with amendments (S. Rept. 499) was reported by the Senate during recess July 3. Senate began consideration of this bill, adopting some committee amendments and deferring action on others.

Interior Appropriations Bill Passed: By 64 yeas to 4 nays, Senate passed, as amended, H. R. 3790, Interior appropriations for 1952, after taking the following further actions on amendments: Adopted: The remainder of the committee amendments which had been passed over temporarily, including...investigations of resources, Fish and Wildlife Service;...

Sea Lampreys Studies--Additional Funds: H. R. 2995, authorizing additional funds for further research and control of sea lampreys of the Great Lakes area, was reported by the Senate (S. Rept. 545).

Sea Lampreys Studies Funds Increase: Passed without amendment and cleared for the President--H. R. 2995, to increase the appropriation for investigations and studies on eradication of sea lampreys in the Great Lakes.

#### BILLS SIGNED BY THE PRESIDENT:

Defense Production Act of 1950 Extension: S. 1717, amending and extending for 1 year the Defense Production Act of 1950. Signed July 31, 1951 (P. L. 96).

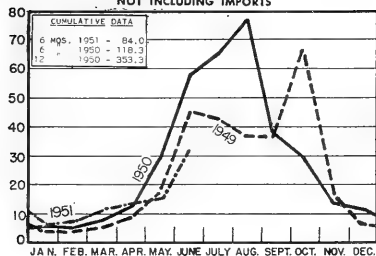
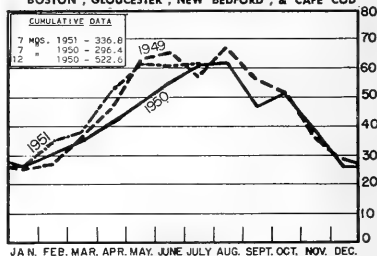
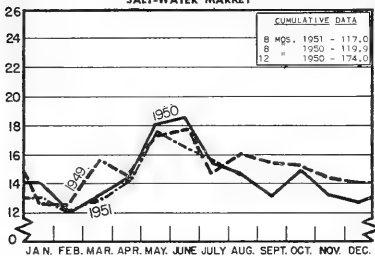
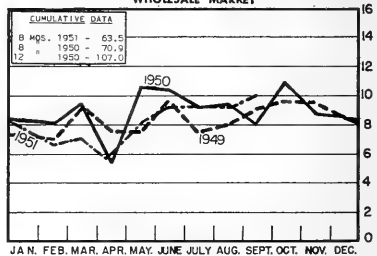
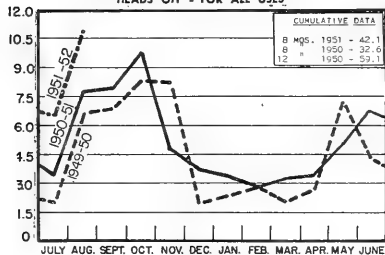
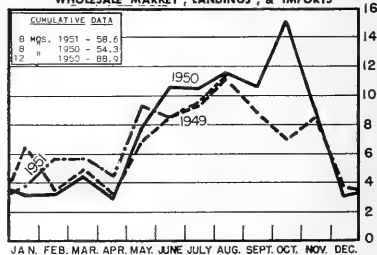
Sea Lampreys Studies Appropriation Increased: H. R. 2995, to increase the appropriation for investigations and studies on eradication of sea lampreys in the Great Lakes. Signed July 30, 1951 (P. L. 94).





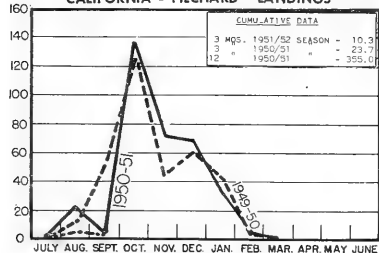
## LANDINGS AND RECEIPTS

In Millions of Pounds

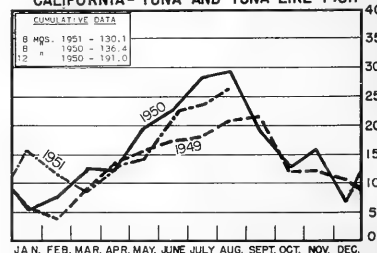
MAINE - LANDINGS  
NOT INCLUDING IMPORTSMASSACHUSETTS - LANDINGS  
BOSTON, GLOUCESTER, NEW BEDFORD, & CAPE CODNEW YORK CITY - RECEIPTS OF FRESH & FROZEN FISH  
SALT-WATER MARKETCHICAGO - RECEIPTS OF FRESH & FROZEN FISH  
WHOLESALE MARKETGULF - SHRIMP LANDINGS  
HEADS OFF - FOR ALL USESSEATTLE - RECEIPTS OF FRESH & FROZEN FISH  
WHOLESALE MARKET, LANDINGS, & IMPORTS

In Thousands of Tons

CALIFORNIA - PILCHARD LANDINGS



CALIFORNIA - TUNA AND TUNA-LIKE FISH

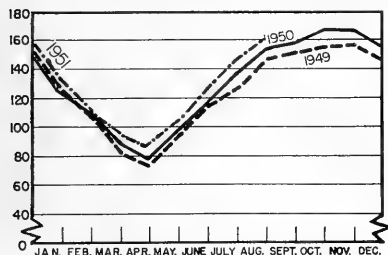




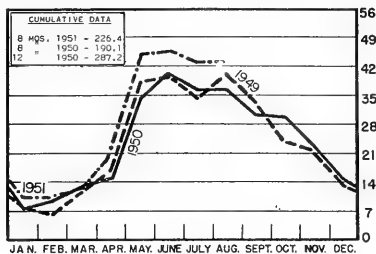
## COLD STORAGE HOLDINGS and FREEZINGS of FISHERY PRODUCTS

In Millions of Pounds

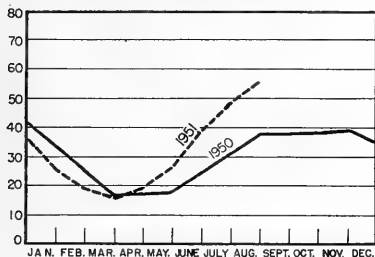
U.S. &amp; ALASKA - HOLDINGS OF FROZEN FISH



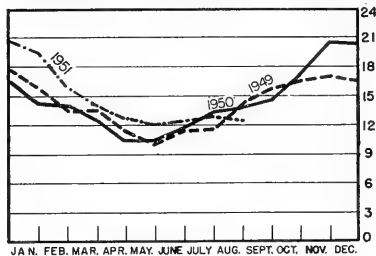
U.S. &amp; ALASKA - FREEZINGS



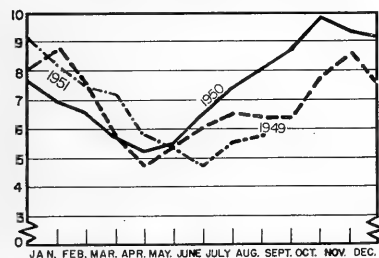
NEW ENGLAND - HOLDINGS OF FROZEN FISH



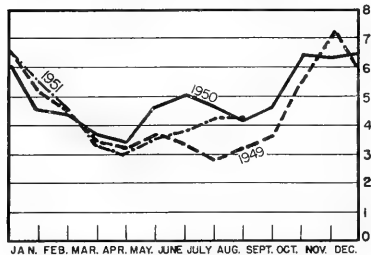
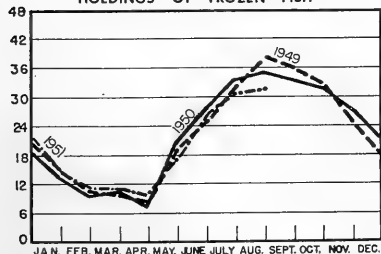
NEW YORK CITY - HOLDINGS OF FROZEN FISH



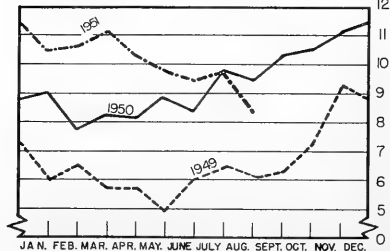
CHICAGO - HOLDINGS OF FROZEN FISH



GULF - HOLDINGS OF FROZEN FISH

WASHINGTON, OREGON, AND ALASKA  
HOLDINGS OF FROZEN FISH

CALIFORNIA - HOLDINGS OF FROZEN FISH

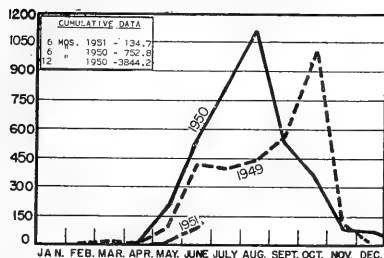




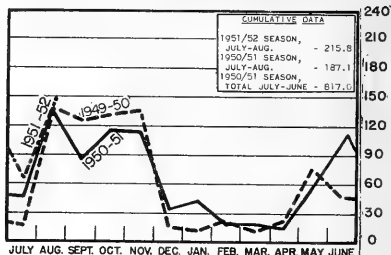
## CANNED FISHERY PRODUCTS

In Thousands of Standard Cases

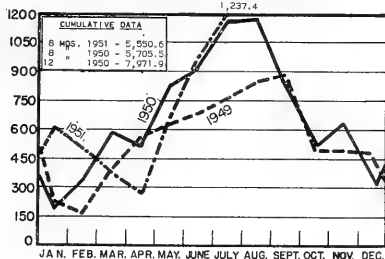
MAINE - SARDINES, ESTIMATED PACK



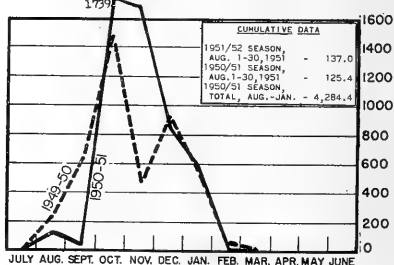
UNITED STATES - SHRIMP



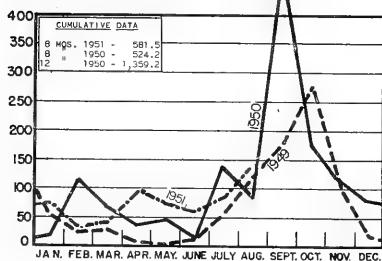
CALIFORNIA - TUNA AND TUNA-LIKE FISH



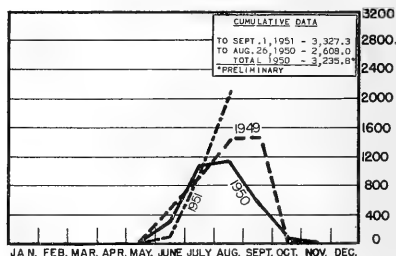
CALIFORNIA - PILCHARDS



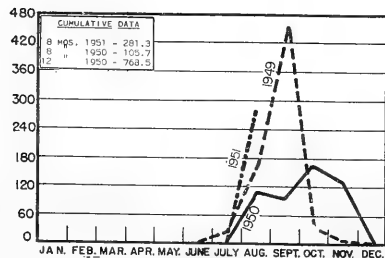
CALIFORNIA - MACKEREL



ALASKA - SALMON



WASHINGTON - PUGET SOUND SALMON

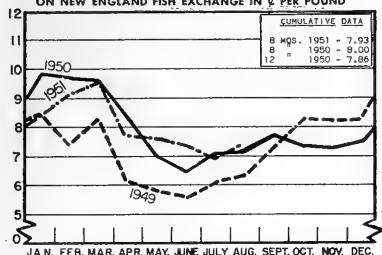
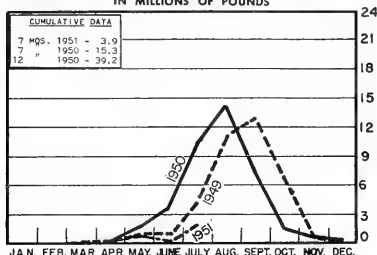
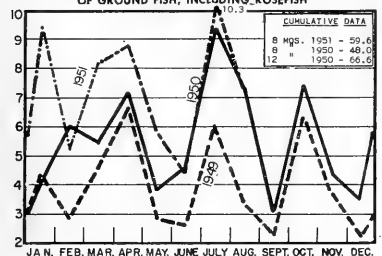
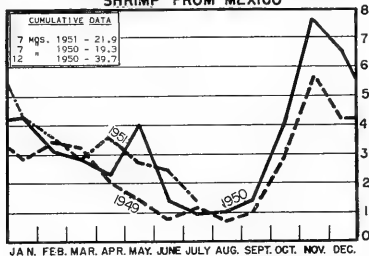
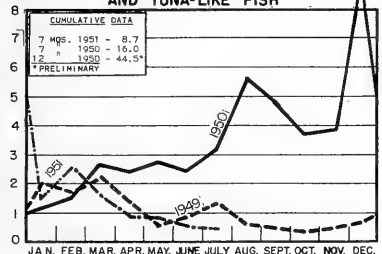
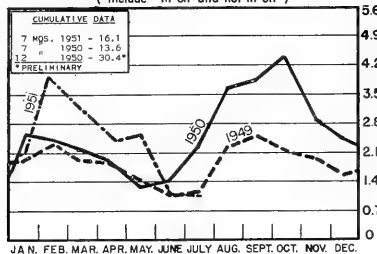
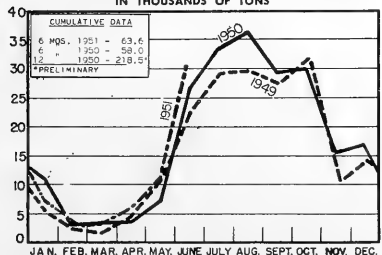
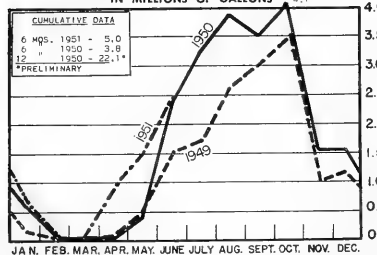


## STANDARD CASES

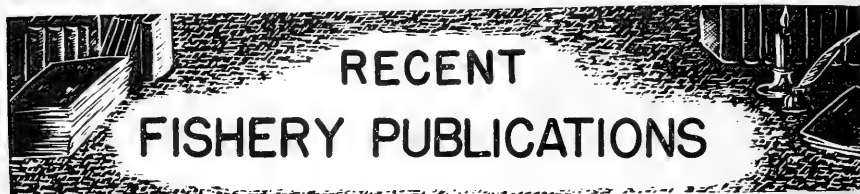
Variety	No. Cans	Can Designation	Net. Wgt.
SARDINES	100	1/4 drawn	3 1/4 oz.
SHRIMP	48		5 oz.
TUNA	48	No. 1/2 tuna	7 oz.
PILCHARDS	48	No. 1 oval	15 oz.
MACKEREL	48	No. 300	15 oz.
SALMON	48	1 pound tall	16 oz.



## PRICES, IMPORTS, and BY-PRODUCTS

BOSTON - WEIGHTED AVERAGE PRICE  
ON NEW ENGLAND FISH EXCHANGE IN ¢ PER POUNDMAINE - IMPORTS OF FRESH SEA HERRING  
IN MILLIONS OF POUNDSU.S. - IMPORTS OF FRESH & FROZEN FILLETS  
OF GROUND FISH, INCLUDING ROSEFISH  
In Millions of PoundsU.S. - IMPORTS OF FRESH AND FROZEN  
SHRIMP FROM MEXICOU.S. - IMPORTS OF CANNED TUNA  
AND TUNA-LIKE FISH  
In Millions of PoundsU.S. - IMPORTS OF CANNED SARDINES  
(Include in oil and not in oil)U.S. & ALASKA - PRODUCTION OF FISH MEAL  
IN THOUSANDS OF TONSU.S. & ALASKA - PRODUCTION OF FISH OIL  
IN MILLIONS OF GALLONS





# RECENT FISHERY PUBLICATIONS

Recent publications of interest to the commercial fishing industry are listed below.

## FISH AND WILDLIFE SERVICE PUBLICATIONS

THESE PROCESSED PUBLICATIONS ARE AVAILABLE FREE FROM THE DIVISION OF INFORMATION, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON 25, D. C. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

- CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES AND ALASKA.
- FL - FISHERY LEAFLETS.
- SL - STATISTICAL SECTION LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.
- SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.
- SSR.-FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).

Number	Title
CFS-651	- Imports and Exports of Fishery Products, 1946-1950, 10 p.
CFS-654	- Frozen Fish Report, Final, June 1951, 10 p.
CFS-655	- Massachusetts Landings, April 1951, 14 p.
CFS-656	- Texas Landings, May 1951, 4 p.
CFS-657	- Maine Landings, April 1951, 4 p.
CFS-658	- Fish Meal and Oil, May 1951, 2 p.
CFS-659	- Alabama Landings, May 1951, 4 p.
CFS-661	- Mississippi Landings, May 1951, 2 p.
CFS-662	- Lake Fisheries, 1949 Annual Summary, 6p.
CFS-663	- Frozen Fish Report, Preliminary, July 1951, 2 p.
SL -111	- Firms Canning Clam Products, 1950, 2 p. (Revised)
FL -3361-	Quarterly Outlook for Marketing Fishery Products, July-Sept. 1951, 32 p.
Sep. 286	- The Trash Fishery of Southern New England in 1950.

Number	Title
Sep. 287	- Effect of Ascorbic Acid on Keeping Quality of Frozen Oysters.
SSR-Fish. No. 56	- Sacramento-San Joaquin Delta Fishery Resources: Effects of Tracy Pumping Plant and Delta Cross Channel, by Leo F. Erkkila, James W. Moffett, Oliver B. Cope, Bernard R. Smith, and Reed S. Nielson, 109 p., illus., December 1950.
SSR-Fish. No. 59	- Tests of Hatchery Foods for Blueback Salmon ( <i>Oncorhynchus nerka</i> ), 1944-1948, by Roger E. Burrows, Leslie A. Robinson, and David D. Palmer, 39p., illus., March 1951.
SSR-Fish. No. 60	- Tests of Hatchery Foods for Blueback Salmon, 1949, by Leslie A. Robinson, David D. Palmer, and Roger E. Burrows, 21 p., April 1951.

## ARTICLE BY FISH AND WILDLIFE SERVICE AUTHORS IN OTHER PUBLICATIONS

"Growth and Setting of Larvae of *Venus mercenaria* in Relation to Temperature," by V. L. Loosanoff, W. S. Miller, and P. B. Smith, article, Journal of Marine Research, vol. X (1951), no. 1, pp. 59-81, illus., printed, \$1.00 per number. Sears Foundation for Marine Research, Bingham Oceanographic Laboratory, Yale University, New Haven, Conn. Larvae of the hard shell clam, *Venus mercenaria*, were grown to metamorphosis at constant temperatures of 30.0, 27.0, 24.0, 21.0, and 18.0° C.  $\pm$  1.0° C. The rate of growth of the larvae was generally, but not always, more rapid at high than at low temperatures. Within this range small differences in temperature, such as 1.0

or 2.0°, were not extremely important in affecting the rate of growth. The average time needed by larvae to reach a certain size or to grow to metamorphosis at different temperatures is given in this article. Larvae obtained from the same sources and grown under identical conditions often showed considerable individual variations in the rate of growth and in the time needed to reach the stage of metamorphosis. Fertilized eggs placed in water of 15.0 or 33.0° C.  $\pm$  1.0° C. showed abnormal development and heavy mortality, few ever reaching veliger state. Some food requirements of the larvae are discussed in this report.



## MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE AGENCIES ISSUING THEM. CORRESPONDENCE REGARDING PUBLICATIONS THAT FOLLOW SHOULD BE ADDRESSED TO THE RESPECTIVE AGENCIES OR PUBLISHERS MENTIONED. DATA ON PRICES, IF READILY AVAILABLE, ARE SHOWN.

Annual Report of the Fisheries Research Board of Canada for the Year 1950, 138 p., printed. Fisheries Research Board of Canada, Minister of Fisheries, Ottawa, Canada, 1951. Full reports of the work for 1950 of the biological and experimental stations of the Fisheries Research Board of Canada are presented in this booklet. Reports of the biological work discuss the investigations of fish and other aquatic organisms found in Canadian waters carried out by the Newfoundland Fisheries Research Station, St. John's; Atlantic Biological Station, St. Andrews, N. B.; Central Fisheries Research Station, Winnipeg, Manitoba; and the Pacific Biological Station, Nanaimo, B. C. The technological work is carried out at the Atlantic Fisheries Experimental Station, Halifax; Gaspé Fisheries Experimental Station, Grand River, Que.; and the Pacific Fisheries Experimental Station, Vancouver. Technological reports discuss the work on the improvement of the quality of fishery food products; methods of processing and preserving fish; studies on the nutritive value of fish; investigations on how to increase the range and value of fishery byproducts for food, medical, and industrial purposes.

(California) Statistical Report of Fresh and Canned Fishery Products (Year 1950, including Sardine Season 1950-1951), Circular No. 25, 21 p. (mostly tables), printed. Bureau of Marine Fisheries, California Division of Fish and Game, San Francisco, Calif., 1951. The tables in this publication show the California landings of all fish and shellfish by species and by main fishing areas, including the amount of pilchards and tuna landed; fishery products shipments into the State; a list of canning and reduction plants (plants primarily processing sardines, tuna, mackerel, and squid); production of canned, cured, and manufactured fishery products and byproducts (including fish meal and oil); and historical data.

"Carp Breeding in Palestine," by A. Sklower, article, *Archiv für Fischerei Wissenschaft*, 2d issue, 3 and 4 quarters 1950, pp. 90-119, printed, 4.50 DM. (US\$1.07). Verlag, Gustav Wenzel & Sohn, 11 Augustplatz, Braunschweig, Germany. After 8 years of carp breeding in Palestine, commencing in 1938, the popularity of this activity spread rapidly and has become one of the most profitable food-producing facilities of the country. This is due mainly to the large demand for protein foodstuffs. Carp breeding is significant in the general economy of the country. Land with soil of high salinity after having been used for the breeding of carp with seasonal changes of water desalts the soil and can later be utilized for other agricultural purposes. Water useless for agricultural soil irrigation because of the high salt content (chlorine con-

tent over 700 mg. per liter) is excellently suitable for fish breeding. Climatic characteristics permit the carp to grow on a year-round basis, differing from the European carp where the maximum period of growth is only eight months out of every year. Carp breeding in Palestine is located in five different regions: Upper Galilee, the Jordan Valley, the Plain of Beisan, the coastal plain around Haifa Bay, and on the north shore of the Dead Sea. The article goes on to discuss the Jewish Agency's fish breeding experimental station at Sdeh Nahum, with particular reference to the building, management, stocking, and results of the carp-breeding ponds at this station. Tables are included for the conditions and results obtained from 9 ponds, showing the seasonal activity, stocking, weight averages, netting time, fish per unit (dunam) of land and per season, feeding material, chemical treatment of the ponds, and fish losses.

Ceylon Fisheries (Recommendations of Experts on Fisheries Development, Research, Socio-Economic and Industrial Problems) Sessional Paper VI--1951, 170 p., printed, about US\$1.10 post-paid. Government Publications Bureau, Colombo, Ceylon, April 1951. This publication contains a collection of papers on Ceylon's fisheries under such titles as: "Report on the Fisheries of Ceylon," by C. F. Hickling; "Report to the Minister of Industries, Industrial Research and Fisheries," by H. Blegvad; "Report on the Handling, Treatment, Packing, Transport Refrigeration, Storage and Sale of Fish, with Notes on Fishery By-products," by E. Petersen; "Some Suggestions for Developing the Fisheries of Ceylon," by C. C. John; "Report on the Ceylon Fishing Industry," by G. L. Keesteven. Almost all phases of Ceylon's fishing industry are covered by these articles, including the resources (deep-sea, inshore, and fresh-water fisheries), gear, marketing, technology, research and development. Tables are given, and maps are included in two of the articles. The appendix includes a regional study prepared for F.A.O. of the organization of the fishing industries of the Indo-Pacific region.

The Determination of Moisture in Fish and Rock Lobster Meats by Oven Methods, by G. M. Drosti and G. H. Stander, Progress Report No. 13, March 1951, 4 p., printed. Fishing Industry Research Institute, Fortswood Rd., Green Point, Cape Town, South Africa. This report deals with various oven methods for determining moisture in products. The total matter which volatilizes from fish meal when heated at 102° C. for five hours by the "standard air oven method" is generally reported as moisture. However, other volatile constituents (such as amines, and oxidation products of the oil) are also driven off under these conditions. The optimum time and temperature for drying is 5 hours at 100° C., since figures



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obtained under these conditions closely relate to the actual moisture content for fish meal. Two types of ovens (air and vacuum ovens) have been tested together with the Brabender Moisture Tester and the results of these tests indicate that constant weight is obtained after 8-14 hours' heating at 70° C. in the vacuum oven with a vacuum of 29.5 ±0.5 ins. mercury and a leak of dry air of 10 liters per hour. The results obtained for fish meals and for spiny lobster meals by heating in the air oven at 102° C. for 5-5½ hours were found to be the same as for the vacuum oven. Optimum heating conditions in the Brabender Moisture Tester for routine work were found to be 1 hour at 112° C. with the figures differing by less than 0.1 percent from values obtained by the vacuum oven for the different types of meal. As a result of surveying different types of oven-drying equipment, the South African Fishery Industry Research Institute has adopted the Brabender Moisture Tester for routine moisture determinations.

Frozen Food Locker Plants (Location, Capacity, Rates, and Use, January 1, 1950), by L. B. Lann and Paul C. Wilkins, 53 p., processed, Director of Information and Extension, Farm Credit Administration, U. S. Department of Agriculture, Washington 25, D. C., March 1951. The frozen food locker industry, especially during the past decade, has been most important in improving the processing and storage of locally-grown perishable foods. This publication reports on a survey made at the request of the National Frozen Food Locker Association and conducted by the Farm Credit Administration in cooperation with the Bureau of Agricultural Economics, with funds provided under the Research and Marketing Act. This study, conducted in the early part of 1950, deals with location, capacity, patronage, services, volume, and rates and charges in locker plants, and furnishes information as to the importance of low temperature home cabinets in relation to locker plant operations. According to this report, on January 1, 1950, there were 11,442 locker plants. Estimates based on this survey show that these plants were servicing approximately 3.9 million locker patrons and about 440 thousand home unit owners not renting lockers. These plants had an estimated combined capacity of over 5.6 million lockers and processed about 1.3 billion pounds of foods during 1949, of which 94 percent was meat, game, and poultry. Fifty-one percent sold commercial frozen foods.

(International Pacific Salmon Fisheries Commission) Annual Report 1950, 42 p., illus., printed. International Pacific Salmon Fisheries Commission, New Westminster, B. C.,

Canada, 1951. A report of the Commission's regulation of the sockeye salmon fisheries within the waters outlined by the Convention between Canada and the United States for the protection, preservation, and extension of the sockeye salmon fisheries in the Fraser River system. Discussed in this report are the various activities of the Commission during 1950, the regulations, the United States fishery, the Canadian fishery, fishing intensity, the Indian catch, escapement, the 1951 cycle, rehabilitation of barren areas, and general investigations.

Japanese Antarctic Whaling Expedition, 1950-51 (Statistical Summary), by Benjamin Goldberg and Leland M. Lucas, Preliminary Study No. 62, 48 p., processed. Natural Resources Section, Supreme Commander for the Allied Powers, Tokyo, Japan, July 1951. (Reports may be purchased only in photostat or microfilm from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.) A summarization of statistical and other biological, and related data concerning Japanese whaling operations in Antarctic waters during the 1949-50 season is contained in this report. Included are data on production (catch, processing, products produced), biological composition of the catch, special biological observations, and numerous figures and tables.

L'Industrie de Nuoc-Mam au Cambodge (The Fermented Fish Industry of Cambodia), by R. Lafont, 7 p., printed in French. Institut Océanographique de l'Indochine, Extrait du Bulletin Economique, 36 Rue Lucien-Mossard, Saigon, Indochine. Fermented fish plays an important role in the diets of the Cambodian people. Over 792 thousand gallons of this food, with a value of US\$9.7 million, are produced annually. The principal centers of production are along the coast of Annam province, Phu-kok Island, and Cathai in Tonkin province. Traditionally, fermented fish (nuoc-mam) was prepared from small salt-water fish. However, the number of plants utilizing fresh-water fish in the production of nuoc-mam have greatly expanded since the war, and offer the greatest possibilities for the future. Nuoc-mam is prepared by mixing round fish with 25 percent salt by weight and permitted to ferment for several months. The finished nitrogenized material is transformed into a soluble product composed chiefly of amino acids which are particularly useful for the human body. The fresh-water fish product is generally credited with being of a poorer quality than the salt-water product and the Cambodian Administration has recently undertaken quality-control measures. The article also gives details on local production, prices paid to fishermen for their catches, and the quality-control methods instituted by the Administration. A good future is forecast for the nuoc-mam industry in Cambodia because of



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the abundance of fish and good markets for the product, provided the quality remains at a high level.

"Men, Rivers, Nets--and Fish," by H. J. Fisher, article, Missouri Conservationist, June 1951, vol. 12, no. 6, pp. 1-3, 8-9, 14, illus., printed. Missouri Conservation Commission, Jefferson City, Mo. Missouri's 1,400-1,600 commercial fishermen seek their catches in the State's three main rivers--Mississippi, Missouri, and St. Francis. The equipment and gear used to take such important rough fish species as catfish, carp, and buffalo fish consist mainly of seines, trammel nets, hoop nets, and hooks. Statistics in this article give the number of units of gear in operation in 1949, the production by species and by rivers, and the value of the harvest taken from the three rivers. Carp are the leading species taken in the Missouri waters, and buffalo fish and catfish are the next most important commercial fish. Fishermen have recently become alarmed by the pollution of important fishing grounds and the lamprey depredations (the chestnut lamprey, Ichthyomyzon castaneus, predominant in Missouri waters is not the sea lamprey causing so much concern in the Great Lakes). The fish requirements of the two leading cities, Kansas City and St. Louis, exceeds the local supply of fresh-water fish, and these cities augment their sales of local river fish with over 9,600,000 pounds of fish obtained from outside of the State. Missouri's annual commercial fish production in 1949 totaled 846,102 pounds as compared with 962,718 pounds in 1948.

Observations on the Bionomics and Fishery of the Brown Mussel (MYTILUS sp.) of the Cape Region of Peninsular India, by S. Jones, 10 p., illus., printed. (Reprinted from the Journal of the Bombay Natural History Society, vol. 49, no. 3, December 1950.) Central Inland Fisheries Research Station, Government of India, P. O. Barrackpore, Via: Calcutta, India. Describes the brown mussel industry along the rocky coastal tracts of Southern Travancore and the Tinnevely in India. Distribution, methods of fishing, utilization, and some indication of how they are consumed in India are discussed. The author in his general remarks points out that the mussel fishery is underexploited.

Results of the West Coast of Vancouver Island Herring Investigation, 1949-50, by J. C. Stevenson and J. A. Lanigan, 40 p., illus., printed, 1951. (Reprinted from the Report of the British Columbia Department of Fisheries, 1949.) British Columbia Department of Fisheries, Victoria, B. C., Canada. This report, the fourth in an annual series, deals primarily with the studies conducted during 1949-50 on the adult stocks

of the herring populations of the west coast and lower east coast of Vancouver Island. Chief reference is made to the changes in the West Coast population, but comparative data from both populations are discussed in a final section of the report. Discussed in the report are the 1949-50 fishery; tagging and tag recovery; sampling of the catches and the spawning runs; and extent and intensity of the spawning.

The Sea Around Us, by Rachel L. Carson, 237 p., illus., printed, \$3.50. Oxford University Press, New York, N. Y., 1951. This book blends the technical divisions of oceanography in order to discuss the history, nature, and cyclic functions of the ocean. Divided into three main sections, the first part deals with various modern phases of oceanic biology and marine geography; the second part discusses the dynamics of waves, currents, and tides; and the last part discusses man and the sea about him. Incorporated in this book are findings of oceanographic investigations reported as late as 1950.

"The Sea Lamprey in the Great Lakes," by V. C. Applegate, article, The Scientific Monthly, May 1951, vol. LXII, no. 2, pp. 275-81, illus., printed, single copies 75 cents. American Association for the Advancement of Science, 1515 Massachusetts Ave., N. W., Washington 5, D. C. Prior to the construction of the Welland Canal, the sea lamprey (Petromyzon marinus) was restricted to Lake Ontario since Niagara Falls stood as a barrier to the other Great Lakes. After 1892, the lamprey spread into Lakes Erie, Huron, and Michigan, and its conquest of Lake Superior is now in progress. The destruction of this parasitic lamprey is evidenced by Lakes Huron and Michigan where experience indicates that a complete collapse of a fishery can take place in only a few years. Although injury to stocks of a variety of fish has not been as great as for lake trout, damage to whitefish, suckers, and wall-eyed pike is increasing to an alarming extent. The author goes on to explain the life history of the sea lamprey, suggesting the life-cycle periods most vulnerable to control measures. Two of the most promising are the prevention of spawning, and the destruction of larval lampreys returning to the lakes from their stream spawning grounds. Several methods of capture or destroying sea lampreys (including a variety of weirs, traps, barrier dams, and sonic and electrical devices) are now being tested. The biggest obstacle in the utilization of these devices is how to eliminate or capture lampreys without blocking or injuring game and commercial fish. Also being considered is the chemical treating of larval beds and the introduction of the American eel which attack and destroy larvae. The unknown effects of these two latter methods on other types of fish



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has prevented a wider usage of them. Finally, the author feels that the most effective controls will be accomplished by a variety of procedures, each adapted to serve best under special local conditions.

Technical Assistance Under the International Agencies, Department of State Publication 4256, International Organization and Conference Series I, 16; 13 p., printed, 10 cents. Office of Public Affairs, Department of State, Washington, D. C., August 1951. (For sale by Superintendent of Documents, Washington 25, D. C.) This booklet explains the background, ramifications, and purpose of the Technical Assistance Program (Point 4). Discusses the genesis of the program in the United Nations and how it is financed; what agencies participate; administrative arrangements; coordination; volume of requests for assistance; and other multilateral technical-assistance programs. In explaining the participation of the FAO, the booklet states that "The two objectives of the Food and Agriculture Organization are to increase and improve agricultural production including forestry and fisheries and to bring about increased food consumption and higher levels of nutrition."

Toxicologie des Poissons (Toxicology of Fish), by Marcel Huet, Groenendaal Research Station Work Series D, No. 11, 13 p., tables, printed in French. Reprinted from the Bulletin du Centre Belge d'Etude et de Documentation des Eaux. Administration des Eaux et Forêts, Ministère de l'Agriculture, Brussels, Belgium, 1950. This is a study of fish toxicology--the mortality of fish resulting from certain toxic substances dissolved in water. These substances have a variable specific action upon the skin, respiratory organs, circulatory or nervous system of fish. The study considers the action of these toxic substances on fish under scientific conditions, both from a minimum toxic exposure analysis, and the dilution limitations. The results of such exposure depends on the species of fish, duration of exposure, temperature, oxygen content, chemical composition of the water, etc. The report also gives the toxicity of principal known poisons, including acids, alkalis, and certain organic and inorganic substances.

Trade with Sweden--A Businessman's Guide and Directory, 103 p., printed, illus. Prepared by Economic Cooperation Administration Special Mission to Sweden. Available from Economic Cooperation Administration, Washington, D. C., May 1951. Answers to some of the problems in trading with Sweden or leads as to where you can get the answers are given in this booklet. In addition to a discussion of the country, economy, and transportation and com-

munication facilities, the booklet contains chapters on Making Contact with the Swedish Businessman; What the American Businessman Should Know About Trading with Sweden; Trade Practice Requirements Under ECA; Shipping to Sweden; Facts to Know About Importing from Sweden. There are several appendices, including a Swedish Directory of Importers, imports to Sweden in 1949, and exports from Sweden in 1949.

(ECA) Twelfth Report to Congress of the Economic Cooperation Administration (For the Quarter Ended March 31, 1951), 156 p., illus., printed, 40 cents. Economic Cooperation Administration, Washington, D. C., August 1951. (For sale by Superintendent of Documents, Washington 25, D. C.) Reports on the activities under the Economic Cooperation Act of 1948 as well as the programs of economic aid to Korea and the general area of China. Edible fishery products, and whale and fish oils are listed as a group in some of the tables. Included is an appendix summarizing the status of the United States Foreign Relief Program and the U. S. Foreign Aid Program.

United States Participation in the United Nations, (Report by the President to the Congress for the Year 1950), Department of State Publication 4178, International Organization and Conference Series III, 67; 447 p., printed, \$1.00. Department of State, Washington, D. C., July 1951. (For sale by the Superintendent of Documents, Washington 25, D. C.) A report by the President of the United States on the activities of the United Nations during 1950 and on the participation of the United States. Among the many phases covered by this report are technical assistance and food and agriculture.

#### TRADE LISTS

The Commercial Intelligence Branch, Office of International Trade, U. S. Department of Commerce, has published the following mimeographed trade lists. Copies of these lists may be obtained by firms in the United States from that Office or from Department of Commerce field offices at \$1.00 per list.

Frozen Foods - Processors and Exporters - Canada (Including Newfoundland), 14 p. (July 1951); lists the names and addresses, products handled, and size of frozen food processors and exporters, including those that handle fishery products.

Canneries - Italy, 24 p. (July 1951); lists the names and addresses, products handled, and size of canneries in Italy, including those that pack fishery products.

Canneries - Colombia, 4 p. (July 1951); lists the names and addresses, products



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handled, and size of canneries in Colombia, including those that pack fishery products.

Feedstuffs - Importers, Dealers, Manufacturers and Exporters - Canada (excluding Newfoundland), 23 p. (July 1951); lists the names and addresses, products handled, and size of firms in Canada dealing in feedstuffs. Includes those firms dealing in fish meal, fish oils,

oyster shell, canned fish, and vitamin oils.

Oils (Animal, Fish and Vegetable) Importers, Dealers, Producers, Refiners, and Exporters - Canada, 21 p. (July 1951); lists the names and addresses, products handled, and approximate size of firms producing or handling oils. Included are firms handling fish oils.



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## TECHNOLOGICAL STUDIES OF THE STARFISH

The common five-rayed starfish (*Asterias forbesi*) is responsible for the destruction of a large quantity of oysters every year. It is estimated that oystermen in the Long Island Sound spend over a million dollars per year for control efforts and seed and market oysters killed by this menace. Besides the methods of control, there has been an effort made in recent years to find some utilization of starfish, especially during their recurring periods of abundance. The composition of starfish, and the value of starfish meal and fertilizer is considered in the new Fishery Leaflet 391, Technological Studies of the Starfish.



This 47-page illustrative leaflet also considers experiments with thiaminase, a thiamine-destructive enzyme found in starfish. The presence of this enzyme tended to retard the growth of chickens experimentally fed with meal of a high starfish concentration. Evidence indicates that thiaminase would be destroyed at temperatures commonly used in fish-meal dryers.

The commercial utility of starfish is limited because of the inconsistency of supply; the expensive cost of reduction (there are no oils or other byproducts to help defray the cost of production); and the low nitrogen content coupled with the high ash content make starfish meal uneconomical.

For more detail information on this starfish study request free copies of Fishery Leaflet 391 from the Division of Information, U. S. Fish and Wildlife Service, Washington 25, D. C.

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